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Curbing Illegal Transfers of Foreign-Developed Critical High Technology from CoCom Nations to the Soviet Union: An Analysis of the Toshiba-Kongsberg Incident

I. INTRODUCTION

In 1987, news reports of the sales of propeller milling machines to the Soviet Union by the Toshiba Machine Co. (Toshiba)¹ of Japan and by Kongsberg Vaapenfabrik (Kongsberg)² of Norway exposed a serious breach in the western multilateral export control system.³ The Toshiba-Kongsberg sales encompassed

¹ Toshiba Machine Co., Ltd. (Toshiba) of Japan is one of the world's largest manufacturers of machine tools. *Investigation Into the Sales of Propeller Milling Machines to the Soviet Union by Toshiba Machine Co., Ltd.*, Report to the President and Directors of Toshiba Corporation, prepared by Mudge Rose Alexander Guthrie & Ferdon, at 5 (Aug. 28, 1987) [hereinafter Toshiba Report]. Toshiba was formed in 1961 when Toshiba Corporation of Japan (Toshiba Corp.) merged Shibaura Machinery Co. with Shibaura Machine Tool Co. *Id.* Toshiba Corp. acquired a controlling interest in Toshiba in 1962, and, in 1986, Toshiba Corp. owned 50.08 percent of Toshiba's common stock. *Id.* Toshiba has roughly 3,600 employees and annual sales in excess of \$700 million. *Id.* Of that total, \$34 million came from sales to the Soviet Union and its strategic allies, and \$122 million resulted from sales with U.S. companies. *Id.* Toshiba has seven subsidiaries in Japan, as well as subsidiaries or affiliated companies in Australia, Mexico, Singapore, Taiwan, and the United States. *Id.* The U.S. subsidiary of Toshiba has offices in Chicago, Los Angeles, and New York. *Id.* Toshiba has its headquarters and manufacturing facilities in Japan. *Id.*

² Kongsberg Vaapenfabrik (Kongsberg) of Norway was a state-sponsored arms manufacturer, which produced a broad range of military and nonmilitary technologies. *Investigation of the Transfer of Technology from Kongsberg Vaapenfabrik to the Soviet Union*, prepared by the Drammen (Norway) Police Department 1-31 (Oct. 14, 1987) [hereinafter Norway Report]. Between 1974 and 1985, the Data Systems division of Kongsberg was responsible for production and sales of computer equipment for milling machines which were part of the Toshiba-Kongsberg sales. *Id.* at 8. In 1985, the division was reorganized into Kongsberg Trade Company which handled sales of Kongsberg equipment to the Soviet Union and its strategic allies. *Id.* In 1986, Kongsberg, faced with financial difficulties, agreed with the government to reorganize and privatize many of its divisions. *Id.* at 1 app. [appendix hereinafter Kongsberg Chronology]. In 1987, all divisions not related to defense were liquidated and sold to private companies. *Id.* See also Brauchli, *Board Approves Kongsberg Sale of Defense Unit*, Wall St. J., Sept. 25, 1987, at 23, col. 4. The Norwegian government retained control of all defense related divisions and reorganized them under Norsk Forsvarsteknologi A/S (NFT). Kongsberg Chronology, *supra*, at 3. NFT is owned by the Norwegian government and produces sophisticated military hardware for Norwegian and foreign defense contractors. *Id.*

³ The factual details of the Toshiba-Kongsberg sales have been well-documented by a number of newspaper articles, investigative reports, and two congressional hearings. See, e.g., Darlin, *Toshiba Case: Japanese Firms Push to Sell to Soviets Led to Breaches*, Wall St. J., Aug. 4, 1987, at 1, col. 6; Sneider, *Toshiba Sale: Only the Tip of Espionage Iceberg?*, Christian Sci. Monitor, July 21, 1987, at 1, col. 2; Sanger, *More Toshiba Tools Said to Reach Soviets*, N.Y. Times, June 19, 1987, at D1, col. 1; Kapstein, *A Leak That Could Sink U.S. Lead in Submarines*, Bus. Wk., May 18, 1987, at 65, col. 1; Peterson, *Toshiba Aided Soviets With*

a series of transactions between 1980 and 1984 in which a Soviet import agency illegally purchased robotic propeller milling machines from Toshiba and sophisticated computer equipment from Kongsberg.⁴ The Toshiba-Kongsberg

Sub Technology, Detroit News, Apr. 28, 1987, reprinted in 133 CONG. REC. S8990-91 (daily ed. June 30, 1987) (the first public report of the Toshiba-Kongsberg sales) [hereinafter Peterson]. The Toshiba Corp., the parent company of Toshiba, commissioned an investigation of the incident with extensive details of Toshiba's involvement in the sales. See Toshiba Report, *supra* note 1, at i-42. The Norwegian government also conducted an investigation of the sales. See Norway Report, *supra* note 2, at 1-31. In June of 1987, the Senate Committee on Banking, Housing, and Urban Affairs held a one-day hearing on the Toshiba-Kongsberg sales. *Toshiba-Kongsberg Technology Diversion Case: Hearing before the Subcommittee on International Finance and Monetary Policy of the Committee on Banking, Housing, and Urban Affairs U.S. Senate*, 100th Cong., 1st Sess. 1-36 (1987) [hereinafter *Toshiba-Kongsberg Hearings I*]. In July of 1987, the Trade Subcommittee of the House Ways and Means held a one-day hearing on proposed legislation imposing import sanctions on Toshiba and Kongsberg. *Legislation to Prohibit the Importation of Products Made by Toshiba Corp. and Kongsberg Vaapenfabrik Co: Hearing before the Subcommittee on Trade of the Committee on Ways and Means House of Representatives*, 100th Cong., 1st Sess. 1-364 (1987) [hereinafter *Toshiba-Kongsberg Hearings II*].

⁴ See Toshiba Report, *supra* note 1, at 14-33; *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 22-24 (chronology of events in Toshiba-Kongsberg diversion). The Toshiba-Kongsberg sales involved two separate shipments of propeller milling machines from Toshiba and corresponding computer equipment from Kongsberg to the Soviet Union. Toshiba Report, *supra* note 1, at i; Sanger, *supra* note 3, at 1.

In 1979, Wako Koeki, a small Japanese trading firm located in Moscow received an inquiry from the Techmashimport, a Soviet import agency, regarding the purchase of sophisticated propeller milling machines from a western manufacturer. Toshiba Report, *supra* note 1, at 14. In January of 1980, a Toshiba sales manager met with representatives from Wako Koeki and Techmashimport regarding the purchase of Toshiba machine tools. *Id.* at 14-15. The Toshiba manager reportedly objected to the sale as a violation of Japanese export control law. *Id.* at 15. The parties, however, continued negotiations regarding the purchase of machines for the next year. *Id.* The discussions expanded over the next few months to include the C. Itoh Co., Toshiba's customary trading firm in Japan, as well as Kongsberg. *Id.* at 15-16. Finally, in April of 1981, all parties reached a series of agreements whereby Toshiba would sell four machines to Techmashimport capable of operating milling heads on nine different axes simultaneously. *Id.* at 24-25. Kongsberg would provide special computer software and numeric controllers used to drive the arms of the milling machines to the Soviets. *Id.* at 23-24. Toshiba and Kongsberg further agreed to disguise and alter the equipment in order to escape scrutiny by Japanese and Norwegian export agencies. *Id.* at 19-21. Once the equipment reached its destination, Kongsberg and Toshiba agreed to reconvert the equipment and install it in a Leningrad shipyard. *Id.* The contracts between Toshiba, Kongsberg, and Techmashimport made no mention of the agreement to alter and reconvert the equipment. *Id.* at 24. The Soviets agreed to pay \$17.4 million to Toshiba for the four machines. *Id.* Following manufacture and testing in 1982, the four nine-axis machines passed review by the Japanese Ministry of International Trade and Industry (MITI). *Id.* at 27. The machines were installed by workers from Toshiba and Kongsberg from August to December of 1983 in the Baltic Shipyard of Leningrad. *Id.* After a few modifications, the machines were operable in late 1984. *Id.* at 28.

A second sale of propeller milling machines followed a similar pattern of negotiations and deceptions. *Id.* at 29-33. In 1982, Soviet officials, who were involved in the first sale but who were no longer working for Techmashimport, inquired whether Toshiba could produce similar five-axis propeller milling machines. *Id.* at 29. After negotiations involving Kongsberg, Wako Koeki, and C. Itoh Co., the parties reached an agreement in 1983 to sell four more machines to the Soviet Union for \$10.7 million. *Id.* at 31. The Toshiba five-axis machines were disguised as drilling, not milling, machines. *Id.* at 32. The Kongsberg computer goods were shipped amidst equipment labeled as spare parts. *Id.* In 1984, Toshiba and Kongsberg technicians reconverted the machines and installed them in the same Leningrad shipyard. *Id.*

sales violated domestic export control laws both in Japan and Norway.⁵ The Toshiba-Kongsberg sales also breached guidelines set by the Coordinating Committee for Export Controls (CoCom)⁶—a multilateral export control organization comprised of Japan and most NATO countries.⁷

The Toshiba-Kongsberg sales substantially enhanced Soviet submarine technology and seriously damaged U.S. national security.⁸ The Soviet Union used the milling machines to produce quieter submarine propellers which have made their strategic nuclear submarines more difficult to track at sea.⁹ With the machines, the Soviet Union closed a substantial gap in submarine propeller technology.¹⁰ Although the cost of repairing the damage has not been accurately estimated, the United States may spend billions of dollars responding to the

In December of 1985, a disgruntled Toshiba employee exposed the sales in a letter to export control authorities in Japan and France. Snider, *supra* note 3, at 1, col. 2.

⁵ See Toshiba Report, *supra* note 1, at 11; Norway Report, *supra* note 2, at 6–7. Item 115 of the Export Regulations of Japan prohibits the sale of numerically controlled machine tools which can operate milling heads on more than three axes simultaneously. Toshiba Report, *supra* note 1, at 11. Four Toshiba milling machines sold to the Soviet Union could operate milling heads on nine axes simultaneously; four of the machines could operate milling heads on five axes simultaneously. *Id.* at i.

Similar provisions are included in Norwegian law under the Provisional Act of 13 December 1946 (Provisional Act). Norway Report, *supra* note 2, at 5. The Kongsberg computer equipment was necessary to operate the Toshiba machines on more than three axes simultaneously and, therefore, was restricted under the Provisional Act. *Id.* at 5.

⁶ CoCom is an informal international organization of western nations which works to control the flow of critical technology to the Soviet Union, its strategic allies, and other controlled nations. Hunt, *Multilateral Cooperation in Export Controls—The Role of CoCom*, 14 TOLEDO L. REV. 1285, 1286 (1983). The current membership of CoCom includes: Belgium, Canada, Denmark, Federal Republic of Germany, France, Greece, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Turkey, the United Kingdom, and the United States. *Id.*

⁷ See Toshiba Report, *supra* note 1, at 11; Norway Report, *supra* note 2, at 6–7. Both Japan's export regulations and Norway's Provisional Act follow guidelines established by CoCom. Toshiba Report, *supra* note 1, at 11; Norway Report, *supra* note 2, at 6–7. Item No. 1091(a)(i) of the CoCom guidelines stipulates that control systems for milling machines must be hardwired, not using computer software, to be exportable from a CoCom nation to the Soviet Union. Norway Report, *supra* note 2, at 11. Under note 3(d) of the guidelines, however, exporters may get permission to export computer driven machines as long as the machines do not operate milling heads on more than two axes simultaneously. *Id.* Item No. 1091 (b)(i)(6) allows the companies to export non-computer driven milling machines so long as they operate milling heads on no more than three simultaneous axes. *Id.* at 12.

⁸ See *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 5–16, 25–26 (statements of Reps. Hunter and Lukens). See also *infra* notes 51–55 and accompanying text.

⁹ See *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 5–11 (statement of Rep. Hunter); Norway Report, *supra* note 2, at 1. See also *infra* notes 52–53 and accompanying text.

¹⁰ See *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 25–26 (statement of Rep. Hunter). Rep. Hunter, relying on classified information, estimated that the Soviet Union had narrowed a ten-year gap in submarine technology to a five-year difference. *Id.* Describing the Soviet Union's advance in submarine technology, Former Navy Secretary Lehman said, "[t]he Soviets have closed the gap . . . [T]heir new submarines are virtually as quiet as the subs we were building just a few years ago." Peterson, *supra* note 3, at 1.

advance in Soviet technology and reestablishing a technological advantage in this area.¹¹

The news reports of the Toshiba-Kongsberg sales spurred a broad range of legislative and diplomatic responses from the United States.¹² Congress threatened to punish Toshiba and Kongsberg by imposing import sanctions on the companies' products and barring the companies from bidding on U.S. government contracts.¹³ Further, Congress proposed that the United States initiate compensation actions against the companies to remedy the damage to U.S. national security.¹⁴ The Reagan administration opposed these legislative actions and, instead, exerted diplomatic pressure on the governments of Japan and Norway to reform their domestic export control systems.¹⁵ Finally, following more than a year of negotiations, Congress and the Reagan administration agreed to limited sanctions against Toshiba and Kongsberg as well as continuing diplomatic negotiations for improved multilateral export controls.¹⁶

¹¹ See *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 5-16, 25-26 (statements of Reps. Hunter and Lukens). The Department of Defense initially estimated that it would cost one billion dollars to develop new electronic techniques which could track the quieter submarines. *Id.* at 12, 15; see also 133 CONG. REC. S8999 (daily ed. June 30, 1987) (statement of Sen. Glenn). Rep. Hunter, a member of the House Armed Services Committee, suggested that the United States may have to spend as much as thirty billion dollars in research and development to regain its previous advantage in submarine technology. *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 6, 9 (statement of Rep. Hunter); see also 133 CONG. REC. H5036 (daily ed. June 16, 1987) (statement of Rep. Hunter). The Reagan administration, however, has been equivocal as to the actual cost of the damage from the Toshiba-Kongsberg sales. Sanger, *U.S. Changes its Stance on Damages by Toshiba*, N.Y. Times, Mar. 14, 1988, at D1, col. 1. While there has been no official study of meeting the Soviet advancement, the House Armed Services Committee did add \$113 million to the 1987 defense budget for advanced submarine research and development specifically responding to the Toshiba-Kongsberg sales. *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 6.

¹² See, e.g., Darlin, *supra* note 3, at 15, col. 1; Mossberg & Lachia, *Senate Votes to Bar Toshiba from U.S. Sales*, Wall St. J., July 1, 1987, at 4, col. 1 [hereinafter Mossberg I]; Rasky, *Toshiba, U.S. Talk on Exports*, N.Y. Times, July 3, 1987, at D1, col. 5; Mossberg & Lachia, *Concessions Fail to Halt Moves Against Toshiba*, Wall St. J., July 20, 1987, p. 15, col. 1 [hereinafter Mossberg II].

¹³ See 113 CONG. REC. S8994-98 (daily ed. June 30, 1987) (statement of Sen. Garn introducing the Multilateral Export Control Sanctions Act of 1987); 133 CONG. REC. H6631-32 (daily ed. July 27, 1987) (statement of Rep. Daniel). See also *infra* note 182 and accompanying text.

¹⁴ See 133 CONG. REC. S9000-01 (daily ed. June 30, 1987) (statement of Sen. Helms); 133 CONG. REC. H5035-42 (daily ed. June 16, 1987) (statement of Rep. Hunter). See also *infra* notes 237-38 and accompanying text.

¹⁵ See Rasky, *supra* note 12, at D1, col. 5; Mossberg I, *supra* note 12, at 4, col. 1; Wehr, *Gridlock Over Toshiba Ban Clouds Deal on Export Controls*, CONG. Q., Mar. 12, 1988, at 673-74; Farnsworth, *Sanctions on Toshiba Face Veto*, N.Y. Times, Mar. 31, 1988, at D1, col. 6.

¹⁶ The Omnibus Trade and Competitiveness Act of 1988, Pub. L. No. 100-418, 102 Stat. 1107 (1988) [hereinafter OTCA]; H.R. CONF. REP. NO. 576, 100th Cong., 2d Sess. 830-38 (1988) [hereinafter OTCA CONFERENCE REPORT].

In helping negotiate the OTCA, the Reagan administration agreed to a compromise package of limited sanctions against Kongsberg, Toshiba, and its parent company Toshiba Corp. See Farnsworth, *Trade Conferees in Congress Agree on Toshiba Curbs*, N.Y. Times, at A1, col. 3; OTCA CONFERENCE REPORT, *supra*, at 831-34. Under section 2443 of the OTCA, the President imposed a three-year ban on imports by Toshiba and a bar on awarding U.S. government contracts to Toshiba Corp. OTCA, *supra*, at § 2443, 102 Stat. 1365. The President also applied similar restrictions on Kongsberg. *Id.* The

The Toshiba-Kongsberg sales also stirred legislative and diplomatic repercussions in Japan, Norway, and other western nations.¹⁷ The Japanese government imposed a one-year ban on Toshiba sales to the Soviet Union and prosecuted employees from Toshiba and a trading firm involved in the sales.¹⁸ Further, the Japanese government passed revisions in domestic export control laws and reformed its export control agencies.¹⁹ Similarly, the Norwegian government barred Kongsberg from any future dealings with the Soviet Union, prosecuted a Kongsberg executive, and passed tougher penalties for its export control laws.²⁰ Further, the Norwegian government conducted an investigation of the Toshiba-Kongsberg sales which concluded that French, Italian, West German, and British companies had also sold sophisticated milling machines to the Soviet Union in the 1980s.²¹ In response, the French government conducted

Reagan administration also continued negotiations within the multilateral export control system. See Browning, *U.S. Seeks Support for Strengthening of Export Controls at CoCom Meeting*, Wall St. J., Jan. 27, 1988, at 22, col. 4.

¹⁷ See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 3-5; Lachia & Mossberg, *Japanese Move to Appease U.S. in Toshiba Case*, Wall St. J., July 17, 1987, at 16, col. 1; Kilborn, *Japanese Agree to U.S. Demands on Controlling Technology Sales*, N.Y. Times, July 17, 1987, at 1, col. 2.

¹⁸ The Japanese government barred Toshiba and C. Itoh Co., a Japanese trading company involved in the Toshiba-Kongsberg sales, from contracting with any business in the Soviet Union or any Eastern European nation for one year. *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 4. Wako Koeki, a second trading firm involved in the sales, received a letter of reprimand from the Japanese government for its role. *Id.* The Japanese government also charged six Toshiba employees and three Wako Koeki employees with criminal violations. *Id.* Due to the short statute of limitations protection, however, only two Toshiba executives were convicted for selling computer software to the Soviet Union after the original machine purchases. See *Unit of Toshiba, Ex-Aides Punished for Sale to Soviets*, Wall St. J., Mar. 23, 1988, at 22, col. 2.

¹⁹ Following public news reports of the Toshiba-Kongsberg sales, the Japanese government passed legislation tightening controls on strategic exports to the Soviet Union and increasing penalties for CoCom violations. Lachia & Yoder, *Toshiba Program May Soften Action Proposed in U.S.*, Wall St. J., Sept. 10, 1987, at 3, col. 4; Sneider, *Japan Curbs Sale of Illegal Technology to Soviet Bloc*, Christian Sci. Monitor, Mar. 30, 1988, at 1, col. 4. The new legislation increased the maximum prison sentence for CoCom violators from three years to five and recognizes attempted violations as crimes for the first time. Lachia & Yoder, *supra*, at 18, col. 2. The law also increases the maximum penalty for banning exports by a CoCom violator from one year to three years. *Id.* The law also creates new procedures for review of exports. *Id.*

In addition, the Japanese government revamped the MITI which is responsible for overseeing exports. Sneider, *supra*, at 16. The Japanese government increased its staff devoted to reviewing export licenses from forty to over one hundred employees, and the MITI budget increased fivefold as it computerized its export license review for the first time. *Id.*

²⁰ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 4-5. The Norwegian Export Control Act of 1987 stiffened existing criminal penalties for export violations from six months to five years and extends the statute of limitations on export violations from two years to ten years. See Norway Report, *supra* note 2, at app. [hereinafter Norway Fact Sheet]. The Norwegian government also pledged to add eleven new positions to the Ministry of Trade and Shipping, the Ministry of Defense, and the Customs Service to improve enforcement of export controls. *Id.*

²¹ See Norway Report, at 5-6, 28-29; Lachia & Greenberger, *Norway Finds Allies Violated CoCom Controls*, Wall St. J., Oct. 22, 1987, at 34, col. 1; Lachia, *Norway Cites U.S. Companies in Violations*, Wall St. J., Oct. 23, 1987, at 23, col. 1; Sanger, *Wider Sale to Soviet Disclosed*, N.Y. Times, Oct. 23, 1987, at D1, col. 2. See also *infra* notes 101-04 and accompanying text.

its own investigation and uncovered two unrelated illegal sales of computer technology to the Soviet Union.²² The various investigations spawned by the Toshiba-Kongsberg sales continue to generate more evidence of illegal technology sales.²³

This Comment examines the Toshiba-Kongsberg sales and responses to the incident from a U.S. perspective in order to provide a background for current policy discussions on curbing illegal high technology sales to the Soviet Union. First, this Comment outlines the specific export control problem presented by the Toshiba-Kongsberg sales.²⁴ Second, this Comment reviews the current structure of the U.S. and western multilateral export control systems.²⁵ Third, this Comment analyzes the various legislative and diplomatic proposals to improve the present multilateral export control system and evaluates their potential effectiveness in responding to the specific problem represented by the Toshiba-Kongsberg sales.²⁶ Finally, this Comment recommends that the United States should develop more detailed information on the illegal flow of foreign-developed technology to the Soviet Union, should avoid unilateral actions in response to incidents like the Toshiba-Kongsberg sales, and should propose concrete reforms to improve enforcement within the CoCom export control system.²⁷

II. ILLEGAL TRANSFERS OF FOREIGN-DEVELOPED CRITICAL HIGH TECHNOLOGY FROM CoCOM COUNTRIES TO THE SOVIET UNION

The United States has substantial national security interests in restricting the flow of critical high technology²⁸ transfers to the Soviet

²² See Browning, *Illicit Sales Held Made to Soviets by French Firm*, Wall St. J., Oct. 19, 1987, at 27, col. 1 [hereinafter Browning I]; Browning, *Four Executives in France are Arrested for Exports of Technology to Soviets*, Wall St. J., Apr. 25, 1988, at 23, col. 2 [hereinafter Browning II].

²³ See, e.g., Bradley, *Shipping Sensitive Technology to the Soviet Union—Cases Mount*, Christian Sci. Monitor, Nov. 12, 1988, at 1, col. 1; Auerbach, *CIA Says Toshiba Sold More to Soviet Bloc*, Wash. Post, Mar. 15, 1988, at C1, col. 2.

²⁴ See *supra* notes 28–114 and accompanying text.

²⁵ See *supra* notes 115–69 and accompanying text.

²⁶ See *supra* notes 170–322 and accompanying text.

²⁷ See *supra* notes 323–49 and accompanying text.

²⁸ Critical technology is technical information or equipment which would significantly enhance the military capabilities of the Soviet Union, its strategic allies, or other hostile nations. Note, *National Security Protection: The Critical Technologies Approach to U.S. Export Control of High Level Technology*, 15 J. INT'L L. & ECON. 575, 576 n.8 (1981). The Department of Defense (DOD) has defined critical technology as follows:

Technologies that consist of (a) arrays of design and manufacturing know-how (including technical data); (b) keystone manufacturing, inspection, and test equipment; (c) keystone materials; and (d) goods accompanied by sophisticated operation, application, or maintenance know-how that would make a significant contribution to the military potential of any country or combination of countries that may prove detrimental to the security of the United States (also referred to as militarily critical technology).

Department of Defense Directive, May 10, 1985, No. 5105.51, reprinted in *The Technology Security*

Union.²⁹ Modern military systems and hardware are dependent on sophisticated

Program: A Report to the 99th Congress, at 1 app. (1986) (prepared by the Department of Defense) [hereinafter 1986 DOD Report]. Keystone equipment is further defined as including: "manufacturing, inspection, or test equipment that is the required equipment for the effective application of technical information and know-how." *Id.*

²⁹ Numerous government studies, congressional reports, and congressional hearings have outlined U.S. national security interests in restricting critical technology transfers to the Soviet Union and its strategic allies. See OFFICE OF THE UNDERSECRETARY OF DEFENSE FOR POLICY, *ASSESSING THE EFFECT OF TECHNOLOGY TRANSFER ON U.S.-WESTERN SECURITY: A DEFENSE PERSPECTIVE* (1985), *reprinted in Toshiba-Kongsberg Hearings II*, *supra* note 3, at 91-167 [hereinafter 1985 DOD REPORT]; CENTRAL INTELLIGENCE AGENCY, *SOVIET ACQUISITION OF MILITARILY SIGNIFICANT WESTERN TECHNOLOGY: AN UPDATE*, 1-34 (1985), *reprinted in Toshiba-Kongsberg Hearings II*, *supra* note 3, at 53-90 [hereinafter SOVIET ACQUISITION: AN UPDATE]; OFFICE OF THE UNDERSECRETARY OF DEFENSE FOR POLICY, *ASSESSING THE EFFECT OF TECHNOLOGY TRANSFER ON U.S.-WESTERN SECURITY: A DEFENSE PERSPECTIVE* (1985), *reprinted in Toshiba-Kongsberg Hearings II*, *supra* note 3, at 91-167; OFFICE OF TECHNOLOGY ASSESSMENT, *TECHNOLOGY AND EAST-WEST TRADE: AN UPDATE* 3-14, 75-84, 87-98 (1984) [hereinafter OTA REPORT]; COMPTROLLER GENERAL OF THE UNITED STATES, GENERAL ACCOUNTING OFFICE, *EXPORT REGULATION COULD BE REDUCED WITHOUT AFFECTING NATIONAL SECURITY* 1-4 (1982) [hereinafter GAO REPORT]; CENTRAL INTELLIGENCE AGENCY, *SOVIET ACQUISITION OF WESTERN TECHNOLOGY*, 1-15 (1982) [hereinafter SOVIET ACQUISITION], *reprinted in Hearings Before the Permanent Subcommittee on Investigations of the Committee on Governmental Affairs*, U.S. Senate, 97th Cong., 2d Sess., 9-24 (1982); SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS, *REPORT ON TRANSFER OF UNITED STATES HIGH TECHNOLOGY TO THE SOVIET UNION AND SOVIET BLOC NATIONS MADE BY THE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS*, S. REP. NO. 664, 97th Cong., 2d Sess. 1-68 (1982) [hereinafter SENATE TECH TRANSFER REPORT]; HOUSE COMMITTEE ON ARMED SERVICES, 98TH CONG., 2D SESS., *REPORT OF THE TECHNOLOGY TRANSFER PANEL* 1-28 (Comm. Print 1984) [hereinafter HOUSE TECH TRANSFER REPORT]; JOINT ECONOMIC COMMITTEE, 98TH CONG., 2D SESS., *EAST-WEST TECHNOLOGY TRANSFER: A DIALOG WITH THE REAGAN ADMINISTRATION* 1-8 (Comm. Print 1984) [hereinafter TECH TRANSFER DIALOG]; *Transfer of U.S. High Technology to the Soviet Union and Soviet Bloc Nations: Hearings before the Permanent Subcommittee on Investigations of the Senate Committee on Governmental Affairs*, 97th Cong., 2d Sess. 2-6, 156-60, 235-37, 262-67 (1982) [hereinafter *Senate Tech Transfer Hearings I*]; *Transfer of Technology: Hearings before the Permanent Subcommittee on Investigations of the Committee on Governmental Affairs*, U.S. Senate, 98th Cong., 2nd Sess. 4-20, 150-79, 231-43, 251-58, 266-85 (1984) [hereinafter *Senate Tech Transfer Hearings II*]; *Technology Transfer: Hearings before the Technology Transfer Panel of the Committee on Armed Services of the House of Representatives*, 98th Cong., 1st Sess. 4-12, 69-97, 116-53 (1984) [hereinafter *House Tech Transfer Hearings*]; *United States Economic Relations: Hearings before the Subcommittee on International Economic Policy of the Committee on Foreign Relations*, U.S. Senate, 98th Cong., 1st Sess. 68-74 (1983) [hereinafter *Senate Foreign Relations Hearings*]. For a thorough bibliography on the topic of technology transfers from the West to the Soviet Union and Eastern Europe, see TECH TRANSFER DIALOG, *supra*, at 134-56 (bibliography prepared by the Congressional Research Service).

In 1984, Undersecretary of Defense Perle described the importance of preventing critical technology transfers in a statement before the House Committee on Armed Services:

The issue surrounding technology transfers has taken on a new significance because of the threat Soviet technology acquisitions over the years can mean to our strategic balance.

The United States had been lulled into believing that with Soviet quantitative superiority, we and our allies could count directly on the technological superiority we possessed to respond to any military threat offered by the Soviet Union and its Warsaw Pact allies.

We had basked in the comfort of thinking we could maintain the balance of power with fewer, qualitatively superior weapons. Over the past decade, however, we have seen legal and illegal Soviet technology acquisitions applied to their military to the point where our technological superiority has eroded.

It has come to the point that virtually every new Soviet weapons system is produced, at least in part, with the aid of modern technology or equipment acquired from the West. Indeed, the Soviets have become arrogant in their reliance on Western technological solutions to their military problems.

high technology developments.³⁰ The United States devotes large amounts of resources to research and development of critical high technologies.³¹ Drawing on both military and civilian sources, the United States has developed a qualitative technological edge over the Soviet Union in certain military hardware and weaponry.³² The United States has traditionally relied on these technological advantages to plan military policy and ensure national security.³³ Consequently, the United States has restricted the transfer of critical high technology from the United States to the Soviet Union and its strategic allies.³⁴

The United States has similar national security interests in restricting the transfer of critical high technologies from foreign countries to the Soviet Union.³⁵ Japan and several Western European nations, in particular, have de-

We are facing a well-organized, orchestrated and dedicated effort by Moscow to acquire our technology for the specific purpose of altering the balance of power to its favor. If I can leave the panel [with] one thought today it is that there are very real and dangerous military consequences that stem from the loss of our technology to the East. These consequences will be an expensive burden to our defense and threaten the cohesion of the Western alliance.

House Tech Transfer Hearings, supra, at 79 (written statement).

³⁰ See, e.g., *Over Hill, Over Dale . . . Tomorrow's Weapons Are Being Designed Today*, TIME, Aug. 19, 1985, at 32, col. 1.

³¹ See, e.g., Towell, *Congress Tightens, Reshapes Defense Budget*, CONG. Q., Nov. 28, 1987, 2945, 2945-52. In 1987, Congress appropriated roughly \$35 billion for research and development and roughly \$85 billion for the purchase of military weapons. *Id.* at 2929. Many of these weapons are based on sophisticated high technologies. *Id.* at 2945-52.

³² See Perle, *Soviet Military Technology: The Eastward Technology Flow*, COMMENT, at 29-30 (Dec. 1984), reprinted from Perle, *The Eastward Technology Flow: A Plan of Common Action*, STRATEGIC REV. 24-32 (Spring 1984); 133 CONG. REC. S8999 (daily ed. June 30, 1987) (statement of Sen. Bumpers). See, e.g., Walton, *The State of Soviet Microelectronics*, BYTE at 137-43 (Nov. 1986).

³³ See Perle, *supra* note 32, at 30; DEPARTMENT OF DEFENSE, *SOVIET MILITARY POWER 1987*, 3-5 (1987) (preface by Secretary of Defense Weinberger).

³⁴ See generally Bertsch, *U.S. Export Controls: The 1970's and Beyond*, 15 J. WORLD TRADE 68 (1981); Dvorin, *The Export Administration Act of 1979: An Examination of Foreign Availability of Controlled Goods and Technologies*, 2 NW. J. INT'L L. & BUS. 179 (1980); Murphy & Downey, *National Security, Foreign Policy and Individual Rights: The Quandry of United States Export Controls*, 30 INT'L & COMP. L.Q. 791 (1981); Gonzalez, *How to Increase Technology Exports Without Risking National Security—An In-Depth Look at the Export Administration Amendments Act of 1985*, 8 LOY. L.A. INT'L & COMP. L.J. 399 (1986); 1986 DOD Report, *supra* note 28; ARMY MILITARY COMMAND GUIDE TO TECHNOLOGY SECURITY, CRITICAL TECHNOLOGIES GROUP, LOS ALAMOS NATIONAL LABORATORY 1-29 (1987) [hereinafter AMC GUIDE].

Since the conclusion of World War II, the United States has restricted the transfer of critical high technology to the Soviet Union and its strategic allies. Dvorin, *supra*, at 181. In 1949, Congress passed the Export Control Act which established the first license restrictions on exports from the United States and essentially embargoed any strategic goods from the Soviet Union and its Eastern European allies. *Id.* at 182. In 1969, Congress passed the Export Administration Act which retained the license structure, but liberalized the export restrictions on nonstrategic goods transferred to the Soviet Union. *Id.* at 183. In 1979, Congress passed a second Export Administration Act which established the current structure of export controls and licenses. See *infra* notes 118-33 and accompanying text. In 1985, Congress passed the Export Administration Amendments Act which amended the Export Administration Act of 1979. *Id.*

³⁵ See Perle, *supra* note 32, at 30-31; Anderson, *Keeping High-Tech Secrets*, Newsweek, Jan. 25, 1982, at 34.

veloped sophisticated civilian technologies with military applications.³⁶ On occasion, the United States draws on technological advances from these countries to enhance its military technology.³⁷ More importantly, the United States wants to shield these foreign-developed critical technologies from the Soviet Union and thus maintain the integrity of any U.S. advantages in military technology.³⁸

The United States, however, has limited control over the transfer of critical technology from foreign countries to the Soviet Union and its strategic allies.³⁹ Foreign-developed technology is generally not subject to restriction under current U.S. export control laws.⁴⁰ Where foreign-developed technology may be restricted under U.S. law, enforcement of such extraterritorial controls is difficult.⁴¹ Therefore, the United States focuses on international cooperation from its foreign allies to restrict the transfer of foreign-developed critical technology to the Soviet Union and its strategic allies.⁴²

The United States has relied primarily on participation in CoCom to restrict the transfer of critical technologies outside the United States.⁴³ A voluntary, non-binding association, CoCom acts to coordinate the domestic export control laws of each member nation to include restrictions on the transfer of critical technologies to certain nations.⁴⁴ The United States works diplomatically within CoCom to prevent the transfer of foreign-developed critical high technology from all CoCom nations to the Soviet Union and its strategic allies.⁴⁵ In this context, the Toshiba-Kongsberg sales revealed a problem for the United States in the current multilateral export control system.⁴⁶

³⁶ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 31–32 (statements of Drs. Freedenberg and Bryen); TECH TRANSFER DIALOG, *supra* note 29, at 6.

³⁷ See, e.g., Carrington, *Japan to Take Part in SDI; Toshiba Barred for a While*, Wall St. J., July 22, 1987, at 6, col. 2. For example, the United States has agreements with the United Kingdom, West Germany, Italy, and Japan to allow companies in those nations to participate in bidding on technology for the Strategic Defense Initiative (SDI) defense program. *Id.* The DOD has further identified Japan as a nation which will contribute to SDI in the areas of radar transmitters, semiconductors, superconductors, software systems, and optical systems. *Id.*

³⁸ See Perle, *supra* note 32, at 29–31.

³⁹ See Gonzalez, *supra* note 34, at 464–68. See also *infra* notes 118–46 and accompanying text.

⁴⁰ See Gonzalez, *supra* note 34, at 452. See also *infra* notes 134–43 and accompanying text.

⁴¹ See Abbott, *Linking Trade to Political Goals: Foreign Policy Export Controls in the 1970s and 1980s*, 65 MINN. L. REV. 739, 838 (1981). See also *infra* notes 142–43 and accompanying text.

⁴² See Note, *CoCom: Limitations of the Effectiveness of Multilateral Controls*, 2 WISC. INT'L L.J. 106, 106–07 (1983) (authored by Paul Webster); 133 CONG. REC. 9001 (daily ed. June 30, 1987) (statement of Sen. Dixon). In 1987, Sen. Alan Dixon commented on the U.S. reliance on international cooperation as follows: "The United States no longer has a monopoly on high technology. We have to work with our allies on a joint control regime, one that is credible and workable." *Id.*

⁴³ See Note, *supra* note 42, at 106; Root, *Trade Controls That Work*, FOREIGN POL'Y 61–72 (Fall 1984); 1986 DOD Report, *supra* note 28, at 61–67.

⁴⁴ See Note, *supra* note 42, at 113–19; Bertsch, *supra* note 34, at 72.

⁴⁵ See Note, *supra* note 42, at 114–15; Root, *supra* note 43, at 61–72.

⁴⁶ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 10–11 (statements of Sens. Dixon and Proxmire); *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 5–16 (statements of Reps. Hunter and Lukens); 133

A. *The Export Control Problem for the United States*

Illegal transfers⁴⁷ of foreign-developed critical high technology represent an export control problem for the United States primarily for three reasons. First, the transfers involve critical technology which substantially damages U.S. national security.⁴⁸ Second, under current U.S. export control laws, the United States has limited authority to restrict the transfer of foreign-developed high technology which originates from a CoCom nation.⁴⁹ Third, even though such transfers may be restricted by foreign export control laws and CoCom guidelines, enforcement in the current multilateral export control system remains largely independent of U.S. interests.⁵⁰ The Toshiba-Kongsberg sales exemplify each aspect of this export control problem.

First, the propeller milling machines from the Toshiba-Kongsberg sales had significant military application and caused a substantial advance in Soviet military technology.⁵¹ The Soviet Union used the machines to polish new submarine propellers to exact specifications in order to eliminate sound frequencies which can be detected by submarine listening devices.⁵² The new propellers led to an estimated twenty-fold reduction in the detectable noise levels of Soviet submarines.⁵³ Prior to the Toshiba-Kongsberg sales, the Soviet Union did not have such technological capability, and the U.S. Navy has estimated the Soviets would not have developed such technology independently for several years.⁵⁴ Certain U.S. officials and lawmakers have suggested it may cost up to thirty billion dollars to respond to the Soviet Union's advance in submarine technology.⁵⁵

CONG. REC. S8988-9004 (daily ed. June 30, 1987) (statements of Sens. Garn, Proxmire, Glenn, Bumpers, Helms, Dixon, Heinz, and Durenberger); 133 CONG. REC. H5035-42 (daily ed. June 16, 1987) (statements of Reps. Hunter, Snowe, Parris, Dornan, Wilson, Burton, and Bonker). *See also infra* notes 47-67 and accompanying text.

⁴⁷ Illegal transfers, for the purposes of this Comment, are those transfers of technology which violate either U.S. export control laws or CoCom guidelines. *See infra* notes 115-69 and accompanying text. Certain transfers of technology which violate CoCom guidelines may not be punishable by law. *Id.* Such transfers, however, are considered illegal by the CoCom member nations. *Id.*

⁴⁸ *See infra* notes 51-55 and accompanying text.

⁴⁹ *See infra* notes 56-59 and accompanying text.

⁵⁰ *See infra* notes 60-63 and accompanying text.

⁵¹ *See Toshiba-Kongsberg Hearings II, supra* note 3, at 5-11, 25-26 (statement of Rep. Hunter).

⁵² *See Norway Report, supra* note 2, at 1. According to news reports, the new Akula and Sierra attack submarines developed by the Soviet navy sometime in 1984 and 1985 were substantially more difficult to track. Kapstein, *supra* note 3, at 65, col. 1. In 1984, the Soviet Union first began producing propellers from the milling machines installed by Toshiba in the Baltic shipyard at Leningrad. Toshiba Report, *supra* note 1, at 28, 32.

⁵³ Norway Report, *supra* note 2, at 1.

⁵⁴ *See Peterson, supra* note 3, at 8990; *Toshiba-Kongsberg Hearings II, supra* note 3, at 25-26 (statement of Rep. Hunter).

⁵⁵ *See Toshiba-Kongsberg Hearings II, supra* note 3, at 5-11; 133 CONG. REC. H5037-38 (daily ed. June 16, 1987) (statement of Rep. Hunter). Rep. Hunter based his estimates on the cost of purchasing

Second, the U.S. government could take no legal action in response to the Toshiba-Kongsberg sales.⁵⁶ The transactions were conducted by foreign companies not subject to U.S. export control law.⁵⁷ The milling machines did not contain any parts or technology developed in the United States.⁵⁸ The transfers took place exclusively outside U.S. jurisdiction.⁵⁹

Third, the Toshiba-Kongsberg sales demonstrate the insufficiency of enforcement systems maintained by certain CoCom member nations.⁶⁰ The Toshiba-Kongsberg sales, once exposed, were clear violations of domestic export control laws in Japan and Norway.⁶¹ Enforcement agencies in those countries, however, had unwittingly approved the transfers without verifying critical information on certain license applications.⁶² Further, while certain company employees suffered criminal penalties, most CoCom violations went unpunished due to short statutes of limitations in both countries.⁶³

The Toshiba-Kongsberg sales point out the problem of illegal transfers of foreign-developed critical technology from CoCom nations to the Soviet Union.⁶⁴ Such illegal transfers can seriously damage U.S. national security interests, and, yet, the United States has limited authority to control the problem.⁶⁵ Current U.S. export control laws do not reach illegal transfers of foreign-

fifteen new attack submarines which are approximately as advanced as the new Soviet attack submarines. *Id.*

⁵⁶ See Toshiba Report, *supra* note 1, at i; *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 18-19.

⁵⁷ See Toshiba Report, *supra* note 1, at i, 5, 14-32; Kongsberg Chronology, *supra* note 2.

⁵⁸ See Toshiba Report, *supra* note 1, at 9.

⁵⁹ *Id.* at 14-33. The sales were transacted between parties in Norway, Japan, and the Soviet Union. *Id.* Meetings negotiating the sales took place outside the United States. *Id.* The milling machines never passed through U.S. territorial jurisdiction. *Id.*

⁶⁰ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 10 (statement of Sen. Dixon). In his opening statement, Sen. Dixon said: "This case [the Toshiba-Kongsberg sales] is a powerful illustration to our allies of the cost of lax enforcement of export controls. I hope the American government will be able to make good use of it in encouraging our allies to beef up their enforcement efforts." *Id.*

⁶¹ Toshiba Report, *supra* note 1, at 11; Norway Report, *supra* note 2, at 6-7, 11-12.

⁶² Toshiba Report, *supra* note 1, at 25-26, 31; Norway Report, *supra* note 2, at 23-26; *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 11-12 (statement of Dr. Bryen).

⁶³ In Japan, the MITI convicted two Toshiba employees for CoCom violations stemming from the sale of computer software for the milling machines to the Soviet Union. See *Unit of Toshiba, Ex-Aides Punished for Sale to Soviets*, Wall St. J., Mar. 23, 1988, at 22, col. 2. MITI officials, however, were unable to pursue any other indictments of persons involved in prior illegal activities because of a three-year statute of limitations on all Japanese export control laws. See *id.* In Norway, one executive from Kongsberg was criminally charged with lying to officials investigating the Toshiba-Kongsberg sales. See Norway Report, *supra* note 2, at 28-29. Due to a two-year statute of limitations, however, no Kongsberg employees were charged with violating export control laws related to the actual technology sales. See *id.*

⁶⁴ See, e.g., 133 CONG. REC. S8990-91, 8998-9000 (daily ed. June 30, 1987) (statement of Sens. Shelby, Garn, Proxmire, and Heinz).

⁶⁵ See *supra* notes 51-63 and accompanying text.

developed critical technology from CoCom countries to the Soviet Union.⁶⁶ Consequently, the Toshiba-Kongsberg sales exposed a weakness facing the United States in the current multilateral export control system.⁶⁷

B. *The Scope and Extent of the Problem*

Assessing the scope and extent of illegal transfers of critical technology to the Soviet Union has two components. First, there is general information available on the Soviet Union's overall acquisition program from the United States and western nations.⁶⁸ Second, there is less specific information available regarding the Soviet Union's acquisition of foreign-developed technology from CoCom nations not including the United States.⁶⁹ These two components are discussed separately.

1. United States and Western Nations

The Soviet Union has developed a sophisticated program for acquiring technology from the West which operates largely by illegal methods.⁷⁰ According to the Central Intelligence Agency (CIA), the Soviet Union maintains a large network of foreign trade organizations which are staffed by officials whose

⁶⁶ See *supra* notes 56-59 and accompanying text.

⁶⁷ See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 10 (statement of Sen. Dixon). Sen. Dixon pointed out the specific problem represented by the Toshiba-Kongsberg sales.

Frankly, it is impossible to overstate the damage these two companies have done to the free world just to make another sale . . . I also think it is vitally important, however, that we learn the proper lessons from this disaster. It is important to note that none of this technology was American. This case, therefore, gives us a chilling reminder that we cannot afford to go it alone. Controls, to be effective, must be multilateral. It makes no difference how tough the U.S. control regime is if other manufacturers of high technology are willing to make sales to the Soviets, or if [CoCom nations] turn a blind eye to evasions of CoCom controls or their own export controls.

Id.

⁶⁸ See *infra* notes 70-84 and accompanying text.

⁶⁹ See *infra* notes 85-114 and accompanying text.

⁷⁰ See SOVIET ACQUISITION, *supra* note 29, at 1-5; SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 1-4; 1985 DOD REPORT, *supra* note 29, at 1-3-1-4; *House Tech Transfer Hearings*, *supra* note 29, at 4-39, 69-97, 116-53; Dudney, *How Soviets Steal High Tech Secrets*, U.S. NEWS & WORLD REP., Aug. 12, 1985, at 33-38; Anderson, *supra* note 35, at 34.

The Soviet Union has used western technology throughout the twentieth century to enhance its military and economic capabilities. Perle, *supra* note 32, at 27-29. Prior to World War II, the Soviet Union received western aid and regularly traded with western nations for technology. *Id.* at 28. After World War II, the western nations imposed an embargo on trade with the Soviet Union, and the Soviets turned to acquiring technology from the West by illegal means. *Id.* During the years of detente in the mid-1970s, the Soviet Union began successfully acquiring western technology through normal commercial channels once again. *Id.* at 29. In the 1980s, however, the United States tightened controls on technology transfers to the Soviet Union and Eastern European nations. See *Senate Tech Transfer Hearings II*, *supra* note 29, at 281-83 (statement of Undersec. of Defense Perle). Recent evidence has suggested that the Soviets have responded by enhancing both its illegal and legal acquisition efforts. See SOVIET ACQUISITION, *supra* note 29, at 2; SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 1-3.

primary purpose is to purchase western high technology goods.⁷¹ Often using normal commercial channels, the Soviet agencies deal with intermediaries such as salespeople or representatives from a trading firm who will contact western manufacturers to produce the high technology goods the Soviets desire.⁷² The intermediaries are often able to escape the export control laws of different western nations and transfer the technology illegally.⁷³ In most cases, these deals appear as legitimate transactions using normal export procedures.⁷⁴

The Toshiba-Kongsberg sales followed this general pattern of illegal transfers from foreign countries to the Soviet Union.⁷⁵ In 1980, Techmashimport, a Soviet trade agency, contacted a small Japanese trading firm in Moscow with a request to purchase special multiple-axis milling machines capable of producing large, marine propellers.⁷⁶ After months of negotiation, the trading firm and Techmashimport reached an agreement with executives from Toshiba and Kongsberg to provide the requested equipment.⁷⁷ The parties recognized that the sales would violate CoCom guidelines and domestic export control laws in Japan and Norway.⁷⁸ To escape detection by the export control agencies, the parties falsified in-house records, fabricated license applications, and disguised the equipment before shipment.⁷⁹

The scope of the Soviet Union's illegal acquisition program is extensive.⁸⁰ The CIA estimates that more than three hundred firms in more than thirty countries were involved in such illegal transfers.⁸¹ Most of these transfers occur in Europe, but a growing number are in Asia.⁸² Officials from the Office of Technology Assessment (OTA) and the CIA estimate that illegal transfers constitute about 70 percent of all high technology transfers to the Soviets.⁸³ A 1985 CIA report said that diversions of this type led to the illegal transfer of "thousands of different items of high technology in the past two decades totaling perhaps billions of dollars in hardware value alone."⁸⁴

⁷¹ See SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 24-28; UNITED STATES DEPARTMENT OF STATE, INTELLIGENCE COLLECTION IN THE USSR CHAMBER OF COMMERCE AND INDUSTRY 1-13 (1987) [hereinafter INTELLIGENCE COLLECTION].

⁷² See SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 26-27.

⁷³ See *id.* at 24-25.

⁷⁴ See *id.* at 26-27.

⁷⁵ See *supra* note 4.

⁷⁶ Toshiba Report, *supra* note 1, at 14; Sneider, *supra* note 3, at 1, col. 2; Darlin, *supra* note 3, at 1, col. 6.

⁷⁷ Toshiba Report, *supra* note 1, at 14-22; Sneider, *supra* note 3, at 1, col. 2.

⁷⁸ Toshiba Report, *supra* note 1, at 14-23.

⁷⁹ *Id.* at 18-20, 25-27, 30-32.

⁸⁰ See SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 31-35.

⁸¹ *Id.* at 25.

⁸² *Id.*

⁸³ House Tech Transfer Hearings, *supra* note 29, at 7 (statement of Dr. Sharfman).

⁸⁴ SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 25.

2. CoCom Nations

Illegal transfers of foreign-developed critical high technology from CoCom nations represent an uncertain portion of the technology the Soviet Union acquires illegally from the West.⁸⁵ Current information on illegal transfers does not identify which transfers involve foreign-developed technology or which transfers originate from CoCom countries.⁸⁶ The difficulty of quantifying illegal activity and the restrictions on classified intelligence further limit available information on the problem.⁸⁷ Recent evidence, however, suggests that foreign-developed technology in CoCom nations may be a substantial source of western technology for the Soviet Union.⁸⁸

High technology from CoCom countries has become the major source for legal Soviet purchases of western high technology.⁸⁹ Throughout the 1980s, CoCom nations have developed sophisticated high technologies on par with the United States.⁹⁰ CoCom nations often have less restrictive views of national security policies on East-West trade and favor more open trade with the Soviet Union in the area of high technology.⁹¹ As a result, Western European and Japanese high technology trade with the Soviet Union has increased compared to the U.S. high technology trade with the Soviet Union.⁹² While there is no data on the frequency of illegal transfers from CoCom countries, certain factors suggest that the Soviet Union successfully conducts illegal acquisitions in conjunction with their legal transactions.⁹³

⁸⁵ See SOVIET ACQUISITION, *supra* note 29, at 2-3.

⁸⁶ See SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 1-30; SOVIET ACQUISITION, *supra* note 29, at 1-15; INTELLIGENCE COLLECTION, *supra* note 71, at 1-13; OTA REPORT, *supra* note 29, at 76-77, 79-80.

⁸⁷ See SOVIET ACQUISITION, *supra* note 29, at 3; Murphy & Downey, *supra* note 34, at 807.

⁸⁸ See Bradley, *Shipping Sensitive Technology to the Soviet Union—Cases Mount*, Christian Sci. Monitor, Nov. 12, 1988, at 1, col. 1.; Browning I, *supra* note 22, at 27, col. 1; Lachia & Greenberger, *supra* note 21, at 34, col. 1.

⁸⁹ See *Eastern European Economies: Slow Growth in the 1980's: Vol. 2 Foreign Trade and International Finance, Selected Papers Submitted to the Joint Economic Committee*, U.S. Congress 92 (1986) [hereinafter *EEE Report*]; SOVIET ACQUISITION, *supra* note 29, at 11-12. Out of sixteen industrialized western nations, the United States ranks tenth in the export of high technology to the Soviet Union and Eastern European nations. *EEE Report*, *supra*, at 92. The report concluded: "Communist countries have consistently purchased most of their high technology products from sources outside the United States." *Id.*

⁹⁰ See, e.g., TECH TRANSFER DIALOG, *supra* note 29, at 6; Carrington, *supra* note 37, at 6, col. 2.

⁹¹ See OTA REPORT, *supra* note 29, at 6-7; Perle, *Making Sure Our Technology Stays Ours*, Wall St. J., July 22, 1987, at 20, col. 2.

⁹² *EEE Report*, *supra* note 89, at 92; TECH TRANSFER DIALOG, *supra* note 29, at 6-7.

⁹³ See *EEE Report*, *supra* note 89, at 93-94. In measuring the total transfer of technology, the legal commercial flow of goods is generally representative of the transfer of technology including non-commercial exchanges. *Id.* This correlation between commercial trade and the total flow of technology may or may not also correspond to the illegal transfer of technology.

In debate on legislation responding to the Toshiba-Kongsberg sales, however, Sen. Shelby noted

The climate for enforcement of export controls is more relaxed in CoCom countries than in the United States.⁹⁴ In the early 1980s, the United States moved to improve the enforcement of U.S. export control laws and countered many Soviet efforts to garner western technology from the United States.⁹⁵ In contrast, CoCom nations expend fewer resources on enforcement.⁹⁶ U.S. officials, foreign businesspeople, and export control experts have commented that foreign enforcement of CoCom guidelines varies substantially outside the United States.⁹⁷

Investigations into the Toshiba-Kongsberg sales have revealed that Western European and Japanese high technology manufacturers commonly violate CoCom guidelines in transferring equipment to the Soviet Union.⁹⁸ While in-

that the Soviets have come to target CoCom nations for acquiring critical high technology because of their weak enforcement efforts:

The United States has traditionally been a far more aggressive enforcer of controls than other CoCom members In fact, U.S. controls have been so effective that the Soviets have been forced to forego their preference of acquiring U.S. made high technology defense technology. As a result, the Soviets have turned to buying defense technology from other western nations that either loosely enforce or virtually ignore CoCom regulations

133 CONG. REC. S8990 (daily ed. June 30, 1987).

Furthermore, the Commerce Department has reported that more than 50 percent of its investigations into export control violations involve foreign companies outside the United States. See GAO REPORT, *supra* note 29, at 27.

⁹⁴ See GAO REPORT, *supra* note 29, at 25-26; *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 21-23 (statement of Sen. Garn); Perle, *supra* note 32, at 27; Recent Development, *CoCom Agrees on New Multilateral Export Guidelines Allowing Eastern Bloc to Purchase Low Level Technology Legally*, 16 GA. J. INT'L & COMP. L. 197, 199 (1986) (authored by Jackie L. Masen).

⁹⁵ See *Senate Tech Transfer Hearings II*, *supra* note 29, at 64-70, 251-58 (statements of Asst. Sec. of Treasury Walker); Perle, *supra* note 32, at 31.

⁹⁶ See GAO REPORT, *supra* note 29, at 25-26; Schonenberger, *Bare Bones Bureau Struggles to Control Japan's Exports*, WALL ST. J., July 22, 1987, at 5, col. 1. At the time of the Toshiba-Kongsberg sales, the Norwegian government assigned three officials for reviewing export license applications. *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 188 (statement of former Undersec. of Defense Perle). The MITI in Japan had roughly ten officials reviewing export license applications at the time of the Toshiba-Kongsberg sales. *Id.* The United States, in comparison, employs more than 450 people in the Commerce Department for reviewing export control license applications. Lachia & Mossberg, *supra* note 3, at 16. Former Undersecretary of Defense Perle described the disparity as follows:

Our CoCom partners lack the legal, institutional and bureaucratic means to enforce the embargo. Japan, for example, has 30 people overseeing 200,000 licenses annually, and 20 of them have been added since the Toshiba case became public. Norway has only six officials to discharge its international obligation to implement the rules. This situation in other countries is similar.

If anyone doubts my skepticism about how our allies administer and enforce the rules, consider this: The U.S. has 15 times as many licenses as Japan awaiting CoCom review for sales to China. Either we are doing 15 times as much business as the Japanese in high-technology exports to China or the Japanese aren't bothering even to request licenses.

Perle, *supra* note 91, at 20.

⁹⁷ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 11-12 (statement of Dr. Bryen); Cullison, *Japanese Warned on Sales to E. Bloc*, J. COM., July 8, 1987, at 2A, col. 3 (statement of Takashi Ishihara, President of the Japan Association of Corporate Executives); Perle, *supra* note 91, at 20; 133 CONG. REC. S8999 (daily ed. June 30, 1987) (statement of Sen. Garn).

⁹⁸ See *Toshiba Report*, *supra* note 1, at 13; *Norway Report*, *supra* note 2, at 10-21; Lachia &

investigating the Toshiba-Kongsberg sales in 1986 and 1987, the Reagan administration informed the Japanese government that it suspected ten other Japanese high technology companies of violating CoCom guidelines in sales to the Soviet Union.⁹⁹ The firms included major corporations such as the Konica Corporation, the Olympus Optical Company, the Advantest Corporation, the Ulvac Corporation, and the Anelva Corporation.¹⁰⁰

Norwegian authorities investigating the Toshiba-Kongsberg sales released a report in 1987 which suggested that Western European companies frequently transferred Norwegian-made computer equipment to the Soviet Union in violation of CoCom guidelines.¹⁰¹ The Norwegian report charged that between 1974 and 1985 six reputable machine tool manufacturers in West Germany, Italy, Great Britain, and France sold more than one hundred machines to the Soviet Union in apparent violation of CoCom guidelines.¹⁰² According to the report, Kongsberg had supplied each of these manufacturers with numeric controllers to accompany machine tools sold to the Soviets.¹⁰³ The various companies and governments have begun further investigations of the Norwegian charges.¹⁰⁴

Finally, a controversy raised by a private investigation of the Toshiba-Kongsberg sales led to the discovery of two unrelated breaches of CoCom guidelines by major French high technology manufacturers.¹⁰⁵ A report commissioned by the Toshiba Corporation of Japan (Toshiba Corp.),¹⁰⁶ the parent company of Toshiba, alleged that in 1978, after Toshiba had refused to sell sophisticated

Greenberger, *supra* note 21, at 34, col. 1; Browning, *supra* note 22, at 27, col. 1; Oka, *Toshiba Whistle Blower Defends Decision to Expose Company*, Christian Sci. Monitor, July 22, 1987, at 28, col. 1.

⁹⁹ Cullison, *U.S. Suspected Others in Japan Trade Scam*, J. Com., Aug. 7, 1987, at 1, col. 3.

¹⁰⁰ *Id.* The names of the remaining five firms were not confirmed by the Reagan administration. *Id.*

¹⁰¹ Norway Report, *supra* note 2, at 10-23; Lachia, *supra* note 21, at 23.

¹⁰² Norway Report, *supra* note 2, at 10; Lachia, *supra* note 21, at 23. The firms identified by the Norwegian authorities were Innocenti Santeuspacchio S.p.A. of Milan, Italy; Schiess AG of Lungen, West Germany; Donau Werkzeugmaschinen G.m.b.H. of Lungenau, West Germany; KTM of Britain, and Ratier-Forest S.A. of France. Lachia, *supra* note 21, at 23. According to the Norwegian report, Kongsberg exported computer numeric controllers to each of these companies which were to be attached to machine tools and shipped to the Soviet Union. Norway Report, *supra* note 2, at 10. Since each of the numeric controllers was freely programmable to operate milling heads on multiple axes, each subsequent shipment of milling machines to the Soviet Union violated CoCom guidelines. See *supra* note 7. Between 1974 and 1976, Kongsberg exported 33 numeric controllers to Ratier-Forest for reexport to the Soviet Union. Norway Report, *supra* note 2, at 10. Between 1976 and 1984, Kongsberg exported 107 numeric controllers to the remaining companies and 105 were destined to be reexported to the Soviet Union. *Id.*

¹⁰³ *Id.* at 10-17.

¹⁰⁴ *Id.* at 9; Lachia, *supra* note 21, at 23, col. 1.

¹⁰⁵ See Browning I, *supra* note 22, at 27, col. 1; Browning II, *supra* note 22, at 23, col. 2.

¹⁰⁶ Toshiba Corp., the sixth largest corporation in Japan, is a manufacturing and sales company which primarily produces consumer and industrial electronics products. Toshiba Report, *supra* note 1, at 6. Toshiba Corp. has 66 subsidiaries and affiliates worldwide with annual sales of 18.7 billion dollars. *Id.* Toshiba is a subsidiary of Toshiba Corp. See *supra* note 1.

milling machines to the Soviet Union, a competing French manufacturer had sold the Soviet Union similar milling machines in violation of CoCom guidelines.¹⁰⁷ The French government, following its own investigation, questioned the Toshiba report's allegations, but did discover two new breaches of CoCom guidelines.¹⁰⁸ First, the French government reported that *Accessoires Scientifiques*, a company owned by the third largest bank in France, had sold complex equipment for making semiconductors to the Soviet Union which may have improved Soviet missile guidance systems.¹⁰⁹ According to news reports, the illegal shipments were made regularly on Air France flights to the Soviet Union up until 1985.¹¹⁰ Second, the French government arrested four executives of *Machines Francaises S.A.* for allegedly selling to the Soviet Union sophisticated machine tools similar to those involved in the Toshiba-Kongsberg sales.¹¹¹ The Soviet Union reportedly used the machine tools to manufacture turbine blades for advanced jet engines.¹¹²

Although the information available on illegal transfers of foreign-developed critical technology is limited, this recent evidence suggests the problem may be serious for the United States.¹¹³ Responses to this problem have generally proposed either unilateral action within the U.S. export control system or multilateral action within the current CoCom export control system.¹¹⁴

III. CURRENT U.S. AND MULTILATERAL EXPORT CONTROL SYSTEMS

The United States attempts to restrict the transfer of critical technology to the Soviet Union through both domestic legislation and international cooperation.¹¹⁵ These two sources of export control have different procedural and

¹⁰⁷ See Toshiba Report, *supra* note 1, at 13.

¹⁰⁸ See Browning, *France Apparently Nearing Rejection of Toshiba Charges of Illicit Sales by Firm*, Wall St. J., Oct. 5, 1987, at 19, col. 1; Browning I, *supra* note 22, at 27, col. 1; Browning II, *supra* note 22, at 23, col. 2.

¹⁰⁹ Browning I, *supra* note 22, at 27, col. 1.

¹¹⁰ *Id.*

¹¹¹ Browning II, *supra* note 22, at 23, col. 2.

¹¹² *Id.*

¹¹³ See *supra* notes 85-112 and accompanying text.

¹¹⁴ See *infra* notes 170-78 and accompanying text.

¹¹⁵ See generally Abbott, *supra* note 41, at 745-56; Berman & Garson, *United States Export Controls—Past, Present, and Future*, 67 COLUM. L. REV. 791 (1967); Bertsch, *supra* note 34, at 68-73; Gonzalez, *supra* note 34, at 407-25; Hunt, *supra* note 6; Murphy & Downey, *supra* note 34, at 793-803; Note, *The Regulation of Technical Data Under the Arms Export Control Act of 1976 and the Export Administration Act of 1979: A Matter of Executive Discretion*, 6 B.C. INT'L & COMP. L. REV. 169 (1983) (authored by Patrick Monahan); Note, *National Security Protection*, *supra* note 28, at 577-83; Note, *Accountability and the Foreign Commerce Power: A Case Study of the Regulation of Exports*, 9 GA. J. INT'L & COMP. L. 577, 579-87 (1979); Note, *supra* note 42, 106-07; Recent Development, *supra* note 94, at 197-211; Winter & Carlson, *Export Licensing: Uncoordinated Trade Repression*, 9 GA. J. INT'L & COMP. L. 333 (1979).

For a brief history of U.S. export control legislation, see *supra* note 34. For a brief history of CoCom and its framework, see *infra* notes 148-49, 155-58 and accompanying text.

enforcement systems.¹¹⁶ The various responses to the Toshiba-Kongsberg sales included specific proposals to alter one or both export control systems.¹¹⁷

A. *The Export Administration Act and Its Enforcement Agencies*

The United States regulates nearly all exports of U.S. commercial goods under the general provisions of the Export Administration Act of 1979 (EAA)¹¹⁸ and the Export Administration Amendments Act of 1985 (EAAA).¹¹⁹ The EAA authorizes the executive branch to regulate all exports from the United States within certain stated policies and administrative guidelines.¹²⁰ The EAA gives the President authority to prohibit the export of goods from the United States for national security reasons.¹²¹ The Secretary of Commerce exercises this executive power by requiring licenses for most goods exported from the United States.¹²² Current license provisions prohibit the transfer of any critical technology to the Soviet Union and its strategic allies.¹²³

¹¹⁶ See Note, *supra* note 42, at 113–20; Abbott, *supra* note 41, at 745–56.

¹¹⁷ See *infra* notes 170–78 and accompanying text.

¹¹⁸ The Export Administration Act of 1979 (EAA), Pub. L. No. 96-72, 93 Stat. 503 (1979) (codified as amended at 50 U.S.C. app. §§ 2401–20).

¹¹⁹ The Export Administration Amendments Act of 1985 (EAAA), Pub. L. No. 99-64, 99 Stat. 120 (1985) (codified as amended at 50 U.S.C. app. §§ 2401–20). This Comment will not discuss the export regulation of defense armaments or nuclear weapons. The export of weapons and arms developed in the United States is regulated by the Arms Export Control Act, 22 U.S.C. § 2778 (1988) and the International Traffic in Arms Regulations, 22 C.F.R. §§ 120–128 (1988).

¹²⁰ 50 U.S.C. app. §§ 2402, 2403(e) (Supp. 1988); Abbott, *supra* note 41, at 745. The purpose of EAA is “to encourage trade with all countries with which the United States has diplomatic or trading relations, except those countries with which such trade has been determined by the President to be against the national interest.” 50 U.S.C. app. § 2402(1) (Supp. 1988). The President can restrict the export of goods from the United States for national security reasons, foreign policy objectives, or the domestic economy of the United States. 50 U.S.C. app. §§ 2402(2)(A–C) (Supp. 1988). The EAA also establishes specific administrative procedures for carrying out these policy objectives. 50 U.S.C. app. §§ 2403–14 (Supp. 1988).

¹²¹ 50 U.S.C. app. §§ 2402(2)(A), 2404 (Supp. 1988). The President may “restrict the export of goods which would make a significant contribution to the military potential of any other country . . . which would prove detrimental to the national security of the United States.” 50 U.S.C. app. § 2402(2)(A) (Supp. 1988).

¹²² 50 U.S.C. app. §§ 2403(a), 2403(e), 2409(a) (Supp. 1988). Under the Export Administration Regulations (EAR), all exports from the United States to a foreign country require some type of license. 15 C.F.R. §§ 368–99 (1988); see also Abbott, *supra* note 41, at 750–55. Commodities which are not subject to foreign policy, national security, or economic restrictions are normally exported under one of several “general licenses” which allow the exporter to transfer goods without specific applications to the Commerce Department. See Abbott, *supra* note 41, at 751; 15 C.F.R. §§ 370–71 (1988). Commodities which are subject to policy restrictions may only be exported under a “validated license” which requires specific approval by the Commerce Department. See Abbott, *supra* note 41, at 751; 15 C.F.R. §§ 370, 376 (1988).

¹²³ Under the EAA, the President establishes a specific policy regarding national security controls toward every potential destination country. 50 U.S.C. app. § 2404(a) (Supp. 1988). Further, the President must establish a list of controlled countries based on those policies. 50 U.S.C. app. § 2404(b) (Supp. 1988). The Soviet Union and the Eastern European nations are all controlled countries. 15

Under the Export Administration Regulations (EAR), the Commerce Department and the Defense Department maintain a list of civilian goods which are restricted for national security reasons.¹²⁴ This control list, called the Commodities Control List (CCL), includes descriptions of all critical technologies which may be restricted under the EAA.¹²⁵ Further, license restrictions apply depending on the destination and final user of goods.¹²⁶ The EAR establishes certain "country groups" which may receive only certain technologies from the United States.¹²⁷ The Soviet Union and its strategic allies consist of several country groups, and the EAR restricts the transfer of any CCL goods directly to those countries.¹²⁸

The EAAA gives the Commerce Department and Customs Department shared responsibility for enforcing this licensing scheme.¹²⁹ The Customs Department working in conjunction with other federal agencies has developed Operation Exodus, a special export control unit which investigates violations of the EAA.¹³⁰ Operation Exodus operates in the United States to search and seize shipments of CCL goods which have violated EAA's license restrictions.¹³¹ Operation Exodus has also established certain international cooperative efforts with foreign export control agencies to operate outside the United States.¹³²

C.F.R. § 370 Supp. No. 1 (1988). The Secretary of Commerce must also maintain a list of specific goods which shall be restricted under these national security export controls. 50 U.S.C. app. § 2404(c) (Supp. 1988). Under the EAA, the Commerce Department along with the Defense Department places all agreed upon critical technologies on the control lists and thereby prohibits the export of critical technology to the Soviet Union and the Eastern European nations. 15 C.F.R. §§ 370.3, 399.1 Supp. No. 1 (1988).

¹²⁴ 50 U.S.C. app. § 2404(d) (Supp. 1988); 15 C.F.R. § 399.1 Supp. No. 1 (1988).

¹²⁵ 50 U.S.C. app. § 2404(d) (Supp. 1988).

¹²⁶ 50 U.S.C. app. § 2404(b) (Supp. 1988); 15 C.F.R. § 376 (1988). All goods restricted for national security policies must receive a "validated license" from the Commerce Department. Abbott, *supra* note 41, at 752; 15 C.F.R. § 376 (1988). To get a validated license, the goods, the buyer, the destination, and the end-use must be clearly stated and must be supported by documentary evidence if requested. Abbott, *supra* note 41, at 752. Under this license, restricted goods may be transferred to certain controlled nations depending on their relations with the United States. *Id.*

¹²⁷ 50 U.S.C. app. § 2404(b) (Supp. 1988); 15 C.F.R. § 370, Supp. No. 1 (1988).

¹²⁸ 15 C.F.R. § 370 Supp. No. 1 (1988). The Soviet Union and the Eastern European nations are consolidated into country groups Q (Romania), W (Hungary and Poland), and Y (Albania, Bulgaria, Czechoslovakia, Estonia, German Democratic Republic, Latvia, Lithuania, Mongolian People's Republic, and the Union of Soviet Socialist Republics). *Id.*

¹²⁹ 50 U.S.C. app. § 2411(a) (Supp. 1988). See also GAO REPORT, *supra* note 29, at 25-26; Gonzalez, *supra* note 34, at 479-83.

¹³⁰ See *House Tech Transfer Hearings*, *supra* note 29, at 123-26 (statement of Dep. Sec. of Commerce Wu); *Senate Tech Transfer Hearings II*, *supra* note 29, at 64-70, 251-58 (statement of Asst. Sec. of Treasury Walker); *Ways U.S. Curbs Soviet Raids on its Technology—Interview with William von Rabb, Commissioner U.S. Customs Service*, U.S. NEWS & WORLD REP., Aug. 12, 1985, at 39. See also Gonzalez, *supra* note 34, at 476.

¹³¹ See *Senate Tech Transfer Hearings II*, *supra* note 29, at 64-70, 251-58 (statement of Asst. Sec. of Treasury Walker); Perle, *supra* note 32, at 31.

¹³² See *House Tech Transfer Hearings*, *supra* note 29, at 123-26 (statement of Dep. Sec. of Commerce Wu).

Operation Exodus has claimed success in slowing the flow of illegal transfers of critical technology from the United States.¹³³

The EAA regulates exports of critical technology from foreign nations to the Soviet Union in two situations.¹³⁴ First, where goods or technology from the CCL were originally exported from the United States, the EAA restricts subsequent reexport by any foreign company in a non-CoCom nation.¹³⁵ The foreign purchaser outside CoCom may not reexport the CCL restricted goods without specific approval from the Commerce Department.¹³⁶ These reexport controls may also apply to goods assembled or developed abroad which contain parts or technologies originally exported from the United States.¹³⁷ Second, where foreign subsidiaries owned by U.S. parent companies developed the technology, the EAA license restrictions apply regardless of whether the goods originated in the United States.¹³⁸

Control of critical high technology exports from foreign countries to the Soviet bloc is limited under the current EAA licensing scheme.¹³⁹ First, the EAA does not cover the transfer of technologies developed in foreign countries by foreign companies.¹⁴⁰ Second, following amendments in 1988, the EAA does not extend reexport controls to CoCom nations with approved export control systems.¹⁴¹ Third, even where the EAA does restrict transfers of critical technology under reexport controls, foreign nations have historically resisted reexport controls as extraterritorial actions by the United States.¹⁴² Fourth, despite the successes of Operation Exodus, the United States does not have significant ability to enforce the EAA export controls outside the United States.¹⁴³

¹³³ See *id.*; Perle, *supra* note 32, at 31-32.

¹³⁴ See Abbott, *supra* note 41, at 838-39; Gonzalez, *supra* note 34, at 452.

¹³⁵ See 15 C.F.R. § 374.1 (1988). Under recent amendments by the OTCA, reexport controls do not apply to foreign companies in CoCom nations with approved export control systems. See OTCA, *supra* note 16, at § 2414, 102 Stat. 1347-49.

¹³⁶ See 15 C.F.R. § 374.3 (1988).

¹³⁷ See 15 C.F.R. § 376.12 (1988); OTCA, *supra* note 16, at § 2414, 102 Stat. 1348 (amending the EAA).

¹³⁸ See Abbott, *supra* note 41, at 839, 843.

¹³⁹ See Gonzalez, *supra* note 34, at 452; Abbott, *supra* note 41, at 840-41.

¹⁴⁰ See Gonzalez, *supra* note 34, at 452; Abbott, *supra* note 41, at 843-49.

¹⁴¹ See OTCA, *supra* note 16, at § 2414, 102 Stat. 1347-49.

¹⁴² See Abbott, *supra* note 41, at 840-41, 843-49; Gonzalez, *supra* note 34, at 452. Unilateral reexport controls promulgated by the United States under EAA have been criticized for being an extraterritorial application of U.S. law. Abbott, *supra* note 41, at 840-43. One commentator has argued that reexport controls are not justified by modern concepts of international law and will remain the source of political tension for CoCom nations. *Id.* at 842-43. Other commentators, however, have suggested such export controls must be extraterritorial in order to be effective and reach all U.S. firms and technology. Weinrod & Pilon, *Staunching the Technology Flow to Moscow* (1983), reprinted in 130 CONG. REC. S1793-96 (daily ed. Feb. 9, 1984).

¹⁴³ See *House Tech Transfer Hearings*, *supra* note 29, at 122-56 (statement of Asst. Sec. of Commerce Wu); Perle, *supra* note 32, at 32.

For these reasons, the United States relies heavily on international cooperation to control transfers of critical high technology from foreign countries to the Soviet Union.¹⁴⁴ The EAA authorizes the President to conduct negotiations with foreign governments interested in similar export controls.¹⁴⁵ Such international cooperation has led to the formation of a multilateral effort to restrict the transfer of critical technology to the Soviet Union.¹⁴⁶

B. CoCom and Foreign Export Control Agencies

The U.S. government's efforts to control the transfer of critical high technology from foreign countries to the Soviet Union focus on participation in CoCom.¹⁴⁷ Western European nations and the United States established CoCom in 1950 to coordinate an embargo policy on trade with the Soviet Union and its strategic allies.¹⁴⁸ The first negotiations concerning the formation of CoCom were held in secret, and all meetings since then have remained closed to public access.¹⁴⁹ Records of the proceedings or written guidelines of CoCom are not publicly available in any member nation.¹⁵⁰

CoCom operates as a voluntary, non-binding diplomatic association of western nations and Japan with common interests in export control.¹⁵¹ CoCom does not have an established charter or treaty.¹⁵² Its rules and procedures are developed voluntarily by its member nations.¹⁵³ All decisions are made by unanimous consent, and member nations are free to veto any CoCom action.¹⁵⁴ Originally formed to embargo trade with the Soviet Union and its strategic allies, CoCom now acts to review and oversee trade with all nonmember nations.¹⁵⁵ Membership in CoCom has grown from an original group of seven European nations to include Japan and the NATO countries, except Iceland.¹⁵⁶ Staffed by diplomats from each member nation, CoCom has met each week in its Paris offices

¹⁴⁴ See Perle, *supra* note 32, at 32.

¹⁴⁵ 50 U.S.C. app. § 2404(i) (Supp. 1988).

¹⁴⁶ See Hunt, *supra* note 6, at 1285-87.

¹⁴⁷ See *id.*; Berman & Garson, *supra* note 115, at 834-35; Bertsch, *supra* note 34, at 68; Dvorin, *supra* note 34, at 184-85; Recent Development, *supra* note 94, at 198-204.

¹⁴⁸ See Hunt, *supra* note 6, at 1286; Note, *supra* note 42, at 108.

¹⁴⁹ See *id.*

¹⁵⁰ See Hunt, *supra* note 6, at 1286; Berman & Garson, *supra* note 115, at 838-39.

¹⁵¹ See Hunt, *supra* note 6, at 1287; Note, *supra* note 42, at 113-15.

¹⁵² See Hunt, *supra* note 6, at 1287; Note, *supra* note 42, at 108, 113.

¹⁵³ See Hunt, *supra* note 6, at 1287; Note, *supra* note 42, at 108, 113-19.

¹⁵⁴ See Note, *supra* note 42, at 115.

¹⁵⁵ See *id.* at 108-13.

¹⁵⁶ See *id.*; Hunt, *supra* note 6, at 1286. The initial group of CoCom nations was Belgium, France, Italy, Luxembourg, the Netherlands, the United Kingdom, and the United States. *Id.* at 1286. Canada, Denmark, the Federal Republic of Germany, and Norway joined CoCom in 1950; Portugal joined in 1952; and Greece, Japan, and Turkey joined in 1953. *Id.*

since 1950.¹⁵⁷ On rare occasions, CoCom has convened high-level meetings of member nations to review its structure and policies.¹⁵⁸

CoCom performs three principal tasks.¹⁵⁹ First, CoCom maintains lists of controlled goods and technologies which are updated to reflect current developments in civilian and military technologies.¹⁶⁰ Second, CoCom rules on requests from any member nation for exceptions to these control lists.¹⁶¹ Third, CoCom works to improve and coordinate enforcement of each member nation's domestic export control laws.¹⁶²

CoCom control lists are guidelines which are voluntarily enforced by export control laws and agencies in each member nation.¹⁶³ Each CoCom nation maintains its own lists of restricted exports, like the CCL in the United States, which includes, at minimum, the items on the CoCom control lists.¹⁶⁴ Each member nation also has a government agency or agencies, like the Commerce and Customs Departments in the United States, which are responsible for licensing restricted goods and for investigating violations of export controls.¹⁶⁵ Under their respective domestic laws, member nations impose civil and criminal penalties for willful violations of export controls.¹⁶⁶

The United States has relied primarily on CoCom guidelines and foreign export control agencies to restrict transfers of foreign-developed critical high technology from CoCom nations to the Soviet Union.¹⁶⁷ The Toshiba-Kongsberg sales and its subsequent investigations exposed the weakness of CoCom enforcement outside the United States and the potential damage to U.S. national security.¹⁶⁸ Consequently, proposals responding to the problem have called for changes in U.S. export control law or the CoCom structure to strengthen enforcement in the current multilateral export control system.¹⁶⁹

¹⁵⁷ See *id.* at 1285-87.

¹⁵⁸ See *id.* at 1287.

¹⁵⁹ See *id.* at 1288; Note, *supra* note 42, at 114-19; Hunt, *supra* note 6, at 1287-96; Murphy & Downey, *supra* note 34, at 805-06.

¹⁶⁰ See Hunt, *supra* note 6, at 1288-91; Note, *supra* note 42, at 116-17.

¹⁶¹ See Hunt, *supra* note 6, at 1291-94; Note, *supra* note 42, at 117-18.

¹⁶² See Hunt, *supra* note 6, at 1294-96; Note, *supra* note 42, at 119.

¹⁶³ See Hunt, *supra* note 6, at 1294-96; Note, *supra* note 42, at 119.

¹⁶⁴ See Hunt, *supra* note 6, at 1288-90. The CoCom control lists are divided into 102 categories of high-technology and other controlled items. GAO REPORT, *supra* note 29, at 2. The United States, for example, controls an additional 30 categories of items not on the CoCom control lists. *Id.*

¹⁶⁵ See Note, *supra* note 42, at 119-20.

¹⁶⁶ See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 4.

¹⁶⁷ See *supra* notes 139-46 and accompanying text.

¹⁶⁸ See *supra* notes 60-63, 98-112 and accompanying text.

¹⁶⁹ See *infra* notes 170-78 and accompanying text.

IV. PROPOSALS TO CURB ILLEGAL TRANSFERS OF FOREIGN-DEVELOPED CRITICAL HIGH TECHNOLOGY FROM CoCom NATIONS TO THE SOVIET UNION

Proposals to curb the illegal transfer of foreign-developed critical technology from CoCom countries to the Soviet Union have focused on improving enforcement throughout the western multilateral export control system.¹⁷⁰ While the proposals generally have held the same objective, the proposals differ in scope and theory.¹⁷¹ The proposals have called either for unilateral action in U.S. export control law or for multilateral action within CoCom.¹⁷²

This Comment discusses four specific actions which the United States may pursue: imposing import sanctions against foreign companies which violate CoCom guidelines;¹⁷³ initiating compensation actions against foreign violators of CoCom guidelines;¹⁷⁴ formalizing the CoCom structure in an international treaty;¹⁷⁵ and reforming current CoCom and member nation enforcement systems.¹⁷⁶ These four actions do not cover all the current proposals on this issue.¹⁷⁷ The actions do, however, include the major responses to the Toshiba-Kongsberg sales and prior proposals made by Congress or the Reagan administration in the 1980s.¹⁷⁸

A. *Import Sanctions Against Foreign Companies in CoCom Nations*

Import sanctions against foreign companies which violate CoCom guidelines were first proposed in the early 1980s.¹⁷⁹ During review of the reauthorization of EAA in 1983, several Reagan administration officials and congressional committees recommended that the President be given authority to impose import sanctions against companies which regularly violate or ignore CoCom.¹⁸⁰ In 1985, Congress passed the EAAA which granted limited authority to the Pres-

¹⁷⁰ See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 10 (statement of Sen. Dixon).

¹⁷¹ See *infra* notes 179–322 and accompanying text.

¹⁷² See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 18–33 (statement of Sens. Garn and Shelby, and Dr. Bryen).

¹⁷³ See *infra* notes 179–234 and accompanying text.

¹⁷⁴ See *infra* notes 235–61 and accompanying text.

¹⁷⁵ See *infra* notes 262–95 and accompanying text.

¹⁷⁶ See *infra* notes 296–322 and accompanying text.

¹⁷⁷ For example, Defense Department and State Department officials have recommended variations on the four categories of proposals outlined in this Comment. See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 13. See also Lachia, *U.S. Will Tell Allies It Might Eliminate All Licensing of Military-Sensitive Gear*, *Wall St. J.*, Oct. 16, 1987, at 2, col. 3.

¹⁷⁸ See *infra* notes 179–83, 235–39, 262–66 and accompanying text.

¹⁷⁹ See, e.g., 130 CONG. REC. S1718–19 (daily ed. Feb. 27, 1984) (Reagan administration statements on CoCom and national security import sanctions) [hereinafter *Import Sanctions Debate*].

¹⁸⁰ See Gonzalez, *supra* note 34, at 498–99; *The Export Administration Act Amendments of 1983: Report of the Committee on Banking, Housing and Urban Affairs*, U.S. Senate, 98th Cong., 1st Sess. 11 (1983) [hereinafter *EAAA Report*].

ident to impose such import sanctions in special circumstances.¹⁸¹ In 1987, responding to the Toshiba-Kongsberg sales, the Senate proposed an amendment to the EAA which included broad provisions for import sanctions.¹⁸² In

¹⁸¹ See Gonzalez, *supra* note 34, at 500-01; *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 18. The EAAA amended the Trade Expansion Act of 1962 to include the following provisions:

(4)(A) Any person who violates any national security control imposed under section 5 of this Act, or any regulations, order, or license issued pursuant thereto may be subject to such controls on the importing of goods or technology into the United States as the President may prescribe.

(B) Except as otherwise provided by law, any person who violates any regulation issued pursuant to a multilateral agreement, formal or informal, to control exports for national security purposes, to which the United States is a party, may be subject to such controls on the importing of goods or technology into the United States as the President may proscribe only if

(i) negotiations with the government or governments, party to the multilateral agreement, with jurisdiction over the violation have been conducted and been unsuccessful in restoring compliance with the regulations of the multilateral agreement;

(ii) the President, subsequent to the failure of such negotiations, has notified such government or governments and the other parties to the multilateral agreement of any proposal to subject the person violating the regulations to specific controls on the importing of goods or technology into the United States upon the conclusion of sixty days from the date of such notification; and

(iii) a majority of the parties to the multilateral agreement (excluding the United States) prior to the expiration of such sixty day period, have expressed to the President concurrence in the import controls or have abstained from stating a position with respect to the proposed controls.

130 CONG. REC. S1719 (daily ed. Feb. 27, 1984). This provision was repealed by the OTCA which provided for more discretion to impose import sanctions. OTCA, *supra* note 16, at § 2447, 102 Stat. 2370. See also *infra* note 183 and accompanying text.

¹⁸² See 133 CONG. REC. S8996-97 (daily ed. June 30, 1987). Sen. Garn proposed that certain mandatory sanctions be imposed on Toshiba, Kongsberg, and future CoCom violators who breach CoCom guidelines and cause a substantial enhancement of Soviet military capabilities. *Id.* As titled by Sen. Garn, the Multilateral Export Control Sanctions Act of 1987 (MECSA) would have made the following amendments to the EAA concerning future CoCom violations:

Mandatory Sanctions—(1) the President shall impose the sanctions described in paragraph (2) for a period not less than 2 years and not to exceed 5 years, and shall notify the Congress of such action, in any case where —

(A) enforcement actions by foreign authorities, intelligence information, required reporting by the Secretary of Defense on diversions, or other sources of information indicate that any foreign person has violated any regulation issued by a country to control exports for national security purposes pursuant to the agreement of the group known as the Coordinating Committee [CoCom], and

(B) that violation has resulted in substantial enhancement of Soviet and East bloc capabilities in submarine or antisubmarine warfare, ballistic or antiballistic missile technology, strategic aircraft, command control, communications and intelligence, or other critical technologies as determined by the President, on the advice of the National Security Council, to represent a serious adverse impact on the strategic balance of forces.

(2) The required trade sanctions shall apply to the foreign person, as well as to any parent, affiliate, subsidiary, and successor companies, and shall include . . .

(A) debarment from contracting with any department, agency, or instrumentality of the United States Government, and

(B) prohibition of importation into the United States of all goods produced by that individual, firm, or firms.

Id. at S8997.

Section 3 of MECSA would have required the President to impose these sanctions on Kongsberg, Toshiba, and Toshiba Corp. *Id.* at 8996.

1988, following extensive revisions, the Senate provisions became law as the Multilateral Export Control Enhancement Amendments Act (MECEAA).¹⁸³

Legislation for import sanctions has taken several forms. Under MECEAA, for example, the President must halt imports of goods to the United States and stop bidding on U.S. government contracts by companies which have violated CoCom guidelines and caused a "substantial enhancement" of Soviet military capabilities.¹⁸⁴ The President, however, determines what constitutes a punishable violation and has considerable discretion in fashioning the scope of the sanctions.¹⁸⁵ Under old provisions of the EAAA, the United States could only impose import sanctions after meeting three conditions.¹⁸⁶ First, the President had to attempt negotiations concerning compliance with CoCom guidelines with the government where the company resides.¹⁸⁷ Second, the President had to give

¹⁸³ See OTCA, *supra* note 16, at §§ 2441–47, 102 Stat. 1364–70; OTCA CONFERENCE REPORT, *supra* note 16, at 830–38. The provisions of the OTCA dealing with import sanctions were renamed the Multilateral Export Control Enhancement Amendments Act (MECEAA) by the House-Senate conferees. See *id.* at 830. MECEAA, as passed into law, provided for limited sanctions against Kongsberg, Toshiba, and Toshiba Corp. *Id.* at 832–33. MECEAA also provided a new legislative scheme for imposing import sanctions in future cases. *Id.* at 834–37. Those provisions amended section 11 of the EAA as follows:

MULTILATERAL EXPORT CONTROL VIOLATIONS

SEC. 11A. (a) DETERMINATION BY THE PRESIDENT.—The President, subject to subsection (c), shall apply sanctions under subsection (b) for a period of not less than 2 years and not more than 5 years, if the President determines that —

(1) a foreign person has violated any regulation issued by a country to control exports for national security purposes pursuant to the agreement of the group known as the Coordinating Committee [CoCom], and

(2) such violation has resulted in substantial enhancement of Soviet and East bloc capabilities in submarine or antisubmarine warfare, ballistic or antiballistic missile technology, strategic aircraft, command control, communications and intelligence, or other critical technologies as determined by the President, on the advice of the National Security Council, to represent a serious adverse impact on the strategic balance of forces

(b) SANCTIONS.—The sanctions referred to in subsection (a) shall apply to the foreign person committing the violation, as well as to any parent, affiliate, subsidiary, and, except as provided in subsection (c), are as follows:

(1) a prohibition on contracting with, and procurement of products and services from, any sanctioned person, by any department, agency or instrumentality of the United States Government, and

(2) a prohibition on importation into the United States of all products produced by a sanctioned person.

OTCA, *supra* note 16, at § 2444, 102 Stat. 1366–69.

Subsection (c) of MECEAA allows the President to limit the sanctions where necessary for U.S. military requirements and for national security. *Id.* Subsection (d) of MECEAA prohibits the President from applying any sanctions to a parent, affiliate, or successor company if the entity did not knowingly violate CoCom guidelines and the government with jurisdiction over the parent, affiliate, or subsidiary had an effective export control program. *Id.* Finally, subsections (f) and (h) of MECEAA give the President substantial discretion to limit the scope of sanctions or to apply sanctions where there has been no "substantial enhancement" of Soviet military capabilities. *Id.*

¹⁸⁴ See OTCA, *supra* note 16, at § 2444, 102 Stat. 1366–69.

¹⁸⁵ See *id.*

¹⁸⁶ See Gonzalez, *supra* note 34, at 498–500.

¹⁸⁷ See *id.* at 499.

sixty days notice of pending sanctions to the government and to CoCom.¹⁸⁸ Third, after sixty days, a majority of CoCom nations, excluding the United States, had to agree to the import sanctions.¹⁸⁹ The United States has never used import sanctions for CoCom violations except in response to the Toshiba-Kongsberg sales.¹⁹⁰

Import sanctions are designed to encourage voluntary compliance with CoCom guidelines by foreign companies.¹⁹¹ The threat of import sanctions creates a potent deterrent for foreign companies doing business in the United States or with U.S. companies.¹⁹² Such deterrence encourages private companies to police their own businesses and ensure compliance with export control laws.¹⁹³ Such deterrence may also persuade foreign governments with interests in preserving trade with the United States to improve their domestic enforcement agencies and export control laws.¹⁹⁴

Import sanctions give the United States authority to act unilaterally in response to serious breaches of its national security.¹⁹⁵ Import sanctions rely on the leverage created by foreign companies' dependence on U.S. commercial markets.¹⁹⁶ By using import sanctions, the United States can focus diplomatic

¹⁸⁸ See *id.*

¹⁸⁹ See *id.*

¹⁹⁰ See *id.* at 499-500.

¹⁹¹ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 19-21 (statement of Sen. Sarbanes); 133 CONG. REC. S8998 (daily ed. June 30, 1987) (statement of Sens. Garn and Proxmire); OTCA CONFERENCE REPORT, *supra* note 16, at 835-37. Sen. Proxmire, in voicing support for MECSA, described the intended effect of import sanctions as follows: "[T]he United States must go beyond cajoling other governments to control the actions of their companies. Companies from CoCom countries must be put on notice that they will have to choose between illicit trade with the Soviets, that threatens the security of the United States and its allied nations, and access to the U.S. market." *Id.* at 8999.

¹⁹² See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 19-21 (statement of Sen. Sarbanes). In the case of Toshiba, for example, import sanctions on Toshiba eliminated the company's annual sales of approximately \$105 million in the United States. Farnsworth, *supra* note 16, at A1, col. 3. Import sanctions on Toshiba Corp. eliminated approximately \$100 million in government contracts with the United States. *Id.*

¹⁹³ Following the introduction of MECSA, for example, the Toshiba Corp. established a private plan to strengthen the internal oversight of high technology exports to CoCom-controlled nations. See TOSHIBA CORPORATION, TOSHIBA STRATEGIC PRODUCTS CONTROL PROGRAM, 1-53 (Sept. 8, 1987) (prepared by Mudge Rose Alexander Guthrie & Ferdon). See also Lachia & Yoder, *Toshiba Program May Soften Action Proposed in U.S.*, Wall St. J., Sept. 10, 1987, at 3, col. 3; Jimbo, *Toshiba—On Its Best Behavior*, Christian Sci. Monitor, Mar. 30, 1988, at 17, col. 3.

¹⁹⁴ See *supra* note 19-20 and accompanying text.

¹⁹⁵ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 26-27. Undersecretary of Defense Perle described the strength of import sanctions as follows:

[A] very powerful club in the closet. If the President had the authority to terminate imports from a Japanese machine tool building company which violated the regulations and, in violation of those regulations, sold machine tools to the Soviet Union, the company would have to think twice before putting at risk the American market, which is much larger for the Japanese machine tool building industry.

Import Sanctions Debate, *supra* note 179, at S1718.

¹⁹⁶ See *supra* note 191 and accompanying text.

pressure on specific companies and even their national governments.¹⁹⁷ Further, if imposed in specific cases for national security reasons, sanctions would not alter general U.S. policies which encourage free trade among western nations.¹⁹⁸

Import sanctions, however, have certain limitations in curbing illegal transfers of foreign-developed critical technology in CoCom countries.¹⁹⁹ First, import sanctions only affect legitimate foreign companies with substantial interests in trade with the United States.²⁰⁰ The Toshiba-Kongsberg sales provide an example of the various companies commonly involved in illegal transfers.²⁰¹ The Toshiba Corp., the parent company of Toshiba, is a well-established corporation which receives about 15 percent of its multi-billion dollar sales from trade with the United States.²⁰² Kongsberg, in contrast, no longer exists as a private corporate entity.²⁰³ In 1986, the Norwegian government liquidated all non-defense related divisions of Kongsberg and reorganized the remaining divisions into Norsk Forsvarsteknologi A.S. (NFT), a wholly-owned government company.²⁰⁴ As a further comparison, Wako Koeki, the Japanese trading firm which set up the Toshiba-Kongsberg sales, conducted no business with the United States and relies largely on trade with the Soviet Union for its profits.²⁰⁵ The threat of import sanctions on future violators depends largely on their size and reliance on the U.S. market.²⁰⁶ Second, import sanctions may exact disproportionate penalties on companies. Large multinational companies, like Toshiba Corp., have depended on U.S. markets to the degree that import sanctions cause substantial damage to their economic interests.²⁰⁷ Smaller, more diversified companies, like Kongsberg, are not proportionately penalized by import sanctions.²⁰⁸ Further, import sanctions have an uncertain impact on U.S. economic and diplomatic interests.²⁰⁹

Import sanctions have a complex impact on U.S. economic interests.²¹⁰ First, any sanction of a foreign company which conducts business in the United States

¹⁹⁷ See Import Sanctions Debate, *supra* note 179, at S1718-19.

¹⁹⁸ See, e.g., 133 CONG. REC. S8996 (daily ed. June 30, 1987). In drafting MECSA, for example, special note was made of Title XXII of the General Agreement on Trade and Tariffs which states: "Nothing in this article shall be construed . . . to prevent any contracting party from taking any action which it considers necessary for the protection of its essential security interests . . ." *Id.*

¹⁹⁹ See, e.g., Import Sanctions Debate, *supra* note 179, at S1716 (statement of Sen. Danforth).

²⁰⁰ See, e.g., *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 30 (statement of Dr. Bryen).

²⁰¹ See, e.g., Sneider, *supra* note 3, at 1; Darlin, *supra* note 3, at 1.

²⁰² See Cullison, *Toshiba Executives Resign in Wake of Sanctions Vote*, J. Com., July 2, 1987, at 1, col. 2.

²⁰³ See Kongsberg Chronology, *supra* note 2, at 1-3.

²⁰⁴ See *id.*

²⁰⁵ See Sneider, *supra* note 3, at 1.

²⁰⁶ See *Toshiba-Kongsberg Hearings I*, *supra* note 1, at 29-30 (statement of Dr. Bryen).

²⁰⁷ See, e.g., *supra* note 192 and accompanying text.

²⁰⁸ See, e.g., Kongsberg Chronology, *supra* note 2, at 1-3.

²⁰⁹ See OTA REPORT, *supra* note 29, at 3-14. See also *supra* notes 210-31 and accompanying text.

²¹⁰ See, e.g., TECH TRANSFER DIALOG, *supra* note 29, at 18. In a general discussion of trade sanctions,

affects innocent U.S. companies which regularly trade with the foreign violator.²¹¹ Where U.S. companies rely on the sanctioned company to produce a product unavailable in other markets, the impact could be substantial.²¹² In 1987, for example, a number of U.S. companies objected to the proposed sanctions against Toshiba, arguing that they would lose contracts and valuable business.²¹³ Second, predicting the cost or benefit of import sanctions to the U.S. economy is difficult.²¹⁴ Impact studies evaluating economic sanctions in the past have had difficulty estimating the outcome of unilateral export sanctions.²¹⁵ In the case of import sanctions responding to the Toshiba-Kongsberg sales, the savings to the U.S. defense budget and the costs to U.S. companies are similarly difficult to predict.²¹⁶ Third, import sanctions deny the United States access to goods or technologies which may economically injure U.S. national security.²¹⁷

the Reagan administration pointed out the uncertainty of the economic price for applying trade sanctions:

Every case of sanctions incurs an economic price for the initiator. The initiator can never tell precisely how worthwhile the sacrifice will be before the sanctions are applied. The offensive action must be judged to be worth the price in political and foreign policy terms. Furthermore, the economic price incurred for the initiating countries, is often [as] complex to assess as the effectiveness of the sanctions. It will depend on the duration of the sanctions and other economic conditions surrounding the transactions and possible alternatives to the affected trade.

Id.

²¹¹ See, e.g., *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 250-339 (letters from U.S. companies submitted at congressional hearing); Rasky, *Top U.S. Corporations Lobbying Against Curb on Toshiba Imports*, N.Y. Times, Sept. 14, 1987, at A1, col. 1.

²¹² See, e.g., 133 CONG. REC. S8994 (daily ed. June 30, 1987) (statement of Sen. Heinz). In explaining the construction of MECSA, Sen. Heinz pointed out the problems of unmitigated import sanctions on a foreign company doing business in the United States:

[I]n the case where an American manufacturer who is an unrelated party to the offender . . . and has been totally innocent, as indeed such an unrelated party would probably be, and is an American firm employing Americans, manufacturing products either for sale in this country or for sale abroad, whose only crime would be to use a component that was designed into the product that they manufacture and that was produced by one of the offending companies, I believe it would be going too far to make it impossible for that company to obtain that component. That would be shooting ourselves in the foot, as well as the other fellow between the eyes.

Id.

Sen. Heinz went on to point out certain provisions in MECSA which would honor some contracts made prior to the imposition of any sanctions and thereby limit the impact on innocent American companies doing business with CoCom violators. *Id.*

²¹³ See Rasky, *supra* note 211, at A1, col. 1.

²¹⁴ See, e.g., OTA REPORT, *supra* note 29, at 6-7; TECH TRANSFER DIALOG, *supra* note 29, at 18.

²¹⁵ OTA REPORT, *supra* note 29, at 6-7.

²¹⁶ See *supra* notes 11, 55, 211 and accompanying text.

²¹⁷ In response to this problem, MECEAA was drafted specifically to avoid the problem of import sanctions damaging U.S. national security interests. OTCA, *supra* note 16, at § 2444, 102 Stat. 1366-69. Under MECEAA, the President must not apply import sanctions for CoCom violations:

[I]n the case of procurement of defense articles or defense services —

(A) under existing contracts or subcontracts, including the exercise of options for production quantities to satisfy United States operational military requirements;

(B) the President determines that the firm or individual in question is the sole source

By imposing import sanctions against foreign technology and arms manufacturers, the United States may interfere with the availability of foreign contractors for advanced military technologies.²¹⁸ For example, following the Toshiba-Kongsberg sales, Congress barred the Defense Department from negotiating with NFT to purchase the Penguin anti-submarine missile.²¹⁹ Furthermore, the Defense Department contracted with Toshiba Corp. for lap-top computers which Congress barred the Defense Department from executing.²²⁰ Finally, even the threat of import sanctions may injure the ability of the United States to attract foreign bidders for defense contracts.²²¹

The impact of import sanctions on U.S. foreign policy interests is also difficult to assess.²²² Import sanctions create obstacles to diplomatic cooperation. From the viewpoint of diplomacy, import sanctions represent unilateral actions by the United States.²²³ In the past, similar unilateral actions in the area of export controls have been ineffective and have upset U.S. diplomatic objectives.²²⁴ Foreign countries often view import sanctions as coercive measures disrespectful

supplier of essential defense articles or services and where no alternative supplier can be identified; or

(C) if the President determines that such goods and services are essential to the national security under defense coproduction agreements

Id. MECEAA also allows the President to avoid the sanctions for the purchase of spare parts, component parts, or unfinished parts of defense articles. *Id.*

²¹⁸ See *infra* notes 219–324 and accompanying text.

²¹⁹ See Porter, *Norway Asks U.S. to Delay Action*, J. Com., July 2, 1987, at 1, col. 2. Kongsberg, prior to the reports of the Toshiba-Kongsberg sales, was scheduled to produce Penguin Mark 2 missiles for U.S. Seahawk helicopters. *Id.* The entire project would cost the United States \$40 million; the first shipment of 190 missiles was due to be manufactured in 1988 and 1989. *Id.*

²²⁰ See 133 CONG. REC. H6631–32 (daily ed. July 27, 1987); *Pentagon Suggests Penalty for Toshiba, Kongsberg*, Wall St. J., Feb. 12, 1988, at 23, col. 3.

²²¹ See Rubinfein, *Japan's Companies Wary of Joining Star Wars Research*, Wall St. J., July 15, 1987, at 24, col. 1.

²²² See TECH TRANSFER DIALOG, *supra* note 29, at 18. In a general discussion of trade sanctions, the Reagan administration pointed out the difficulties of applying any economic trade sanctions for political purposes.

The effectiveness of trade sanctions for foreign policy purposes is complex and depends on the foreign policy goal being sought.

Every case of trade sanctions is necessarily different because it involves unique country actors, unique economic, political, and military circumstances, and unique strategic considerations. There are several possible foreign policy objectives that may be sought when imposing sanctions in response to provocation: (1) to inflict an economic price or diplomatic loss of face; (2) to signal another country that the resolve to resist, even under complex political circumstances and pressures, is not lacking; (3) to signal a strong desire on the part of one nation, or many, that the target countries change its policies. The effectiveness of sanctions imposed as a signal to another country may not be discerned until years later because the sanctions may have prevented further action from occurring, rather than having caused a change in the offensive action or policy.

Id.

²²³ See *Senate Foreign Relations Hearings*, *supra* note 29, at 69–70, 73 (statement of former CoCom negotiator Dr. Root); *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 5.

²²⁴ See OTA REPORT, *supra* note 29, at 92–93; Root, *supra* note 43, at 61–72.

of their national interests.²²⁵ Import sanctions could adversely affect the voluntary cooperation of the current CoCom structure.²²⁶

The threat of import sanctions, however, may act to emphasize the importance of U.S. national security within the multilateral export control system.²²⁷ For example, Japan and Norway responded quickly to the threat of import sanctions following the Toshiba-Kongsberg sales.²²⁸ Japan proposed reforms to toughen its export control laws and nearly quadrupled the size of its enforcement agency responsible for export controls.²²⁹ Similarly, Norway passed revised penalties for CoCom violations and added to the staff of its enforcement agency.²³⁰ It is unclear whether the permanent threat of import sanctions established by recent legislation will also encourage multilateral cooperation in the future.²³¹

Import sanctions offer a form of unilateral action by the United States to encourage tighter enforcement of CoCom guidelines.²³² At present, the President can fashion import sanctions to respond to any CoCom violation.²³³ Import sanctions, however, have both diplomatic and economic consequences which are difficult to predict.²³⁴

B. *Compensation Actions Against Foreign Companies in CoCom Nations*

Compensation actions are a novel approach to the problem of illegal transfers of critical technology to the Soviet Union.²³⁵ Compensation actions against governments or companies were first proposed following the news reports of the Toshiba-Kongsberg sales in 1987.²³⁶ The House and Senate passed resolutions directing the Reagan administration to pursue discussions with Japan regarding compensation for the damage to U.S. national security.²³⁷ The Senate further

²²⁵ See Root, *supra* note 43, at 61-62; *Senate Foreign Relations Hearings*, *supra* note 29, at 69-70, 73; Gonzalez, *supra* note 34, at 498-500; *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 5; Haberman, *Japanese Protest Curbs on Toshiba*, N.Y. Times, Apr. 2, 1988, at 29, col. 6.

²²⁶ See Root, *supra* note 43, at 61-62; *Senate Foreign Relations Hearings*, *supra* note 29, at 69-70, 73. For example, European Common Market officials have said that import sanction legislation would discourage the reporting of CoCom violations. See Wehr, *supra* note 15, at 673.

²²⁷ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 25-26; *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 21-25 (statement of Sen. Garn).

²²⁸ See *supra* notes 19-20 and accompanying text.

²²⁹ See *supra* note 19 and accompanying text.

²³⁰ See *supra* note 20 and accompanying text.

²³¹ See Haberman, *supra* note 225, at 29, col. 6.

²³² See *supra* notes 191-98 and accompanying text.

²³³ See *supra* notes 184-85 and accompanying text.

²³⁴ See *supra* notes 210-26 and accompanying text.

²³⁵ See 133 CONG. REC. H5035-36 (daily ed. June 16, 1987) (statement of Rep. Hunter).

²³⁶ See *id.*

²³⁷ See 133 CONG. REC. H5042 (daily ed. June 16, 1987); 133 CONG. REC. S8997 (daily ed. June 30, 1987). The House passed the following amendment to the annual budget authorization bill for the Department of State:

proposed that the U.S. government be allowed a private right of action to sue Kongsberg or Toshiba for damages in U.S. District Court.²³⁸ MECEAA, as passed in 1988, included provisions both for diplomatic and legal compensation actions.²³⁹

The Secretary of State shall enter into discussions with Japan and Norway regarding compensation for damage to the United States national security resulting from [the Toshiba-Kongsberg] breaches of export controls. The Secretary shall submit a preliminary report to the appropriate committees of Congress concerning the status of such discussions in 180 days after the date of the enactment of this Act.

133 CONG. REC. H5035 (daily ed. June 16, 1987).

In the Senate, MECSA, as originally drafted, would have amended the EAA as follows:

COMPENSATION FOR DIVERSION OF MILITARILY CRITICAL TECHNOLOGIES TO CONTROLLED COUNTRIES.—In cases in which mandatory sanctions have been applied against a firm or individual for diversion of technology that has caused a serious adverse impact on the strategic balance of forces between the United States and the Soviet Union and East bloc, the President shall initiate discussions with the firm or individual and its national government regarding compensation on the part of the company proportionate to the cost of research and development and procurement of new defensive systems by the United States and her allies to counteract the effect of the technological advance achieved by the Soviet Union as a result of the diversion.

Id.

²³⁸ 133 CONG. REC. S9000 (daily ed. June 30, 1987). In MECSA, the Senate also proposed the following amendment to the EAA:

CIVIL DAMAGES FOR NATIONAL SECURITY VIOLATIONS . . .

DAMAGES FOR CERTAIN VIOLATIONS.—(1) In any case in which a person violates a regulation issued to control exports for national security purposes including any regulation issued by another country pursuant to the agreement of the group known as the 'Coordinating Committee' [CoCom], the Secretary [of Commerce] shall notify the Secretary of Defense of the violation.

(2) Upon receipt of notice under paragraph (1), the Secretary of Defense shall determine whether the violation has resulted in a reduction in the military preparedness of the United States. If the Secretary of Defense determines there has been such a loss, the Secretary shall so notify the Attorney General who shall bring an action for damages in any appropriate district court of the United States against the person who violated such regulation and any person that is owned or controlled by the person who violated the regulation and any person who owns and controls the person who violated such regulation.

(3) The total amount awarded in any case shall be determined by the court in light of the facts and circumstances, but shall not exceed the amount of net loss to the national security of the United States. An action under this subsection shall be commenced no later than 3 years after the occurrence of the violation or one year after the violation is discovered, whichever is later.

Id.

²³⁹ See OTCA, *supra* note 16, at § 2444(i), 102 Stat. 1366-69; OTCA CONFERENCE REPORT, *supra* note 16, at 837. MECEAA included the following provisions for compensation actions against CoCom violators:

COMPENSATION FOR DIVERSION OF MILITARILY CRITICAL TECHNOLOGIES TO CONTROLLED COUNTRIES.—(1) In cases in which sanctions have been applied against a foreign person under subsection (a), the President shall initiate discussions with the foreign person and the government with jurisdiction over that foreign person regarding compensation on the part of the foreign person in an amount proportionate to the costs of research and development and procurement of new defensive systems by the United States and the allies of the United States to counteract the effect of the technological advance achieved by the Soviet Union as a result of the violation by that foreign person.

(2) The President shall, at the time that discussions are initiated under paragraph (1), report

Compensation actions, if successful, could help to remedy the damage of illegal transfers for the United States and increase the potential deterrent effect of U.S. unilateral action.²⁴⁰ Compensation actions make foreign companies responsible for violations of CoCom guidelines and penalize the companies for some or all damages resulting from the violations.²⁴¹ The effectiveness of recent provisions for compensation actions, however, remains as yet untested.²⁴²

Compensation actions, as currently structured, are either voluntary or compulsory.²⁴³ Voluntary actions rely on the strength of U.S. alliances with CoCom nations and, possibly, the coincident threat of more coercive unilateral actions by the United States.²⁴⁴ For example, under the House resolution, the State Department initiated negotiations with Japan asking for voluntary contributions from Toshiba Corp. to the U.S. defense budget.²⁴⁵ Compulsory compensation actions rely on the jurisdiction of U.S. federal courts or some multilateral agreement to force the contribution of a foreign CoCom violator.²⁴⁶ For ex-

to the Congress that such discussions are being undertaken, and shall report to the Congress the outcome of those discussions.

Id.

MECEAA also includes provisions for legal actions against CoCom violators.

DAMAGES FOR CERTAIN VIOLATIONS.—(1) In any case in which the President makes a determination under subsection (a), the Secretary of Defense shall determine the costs of restoring the military preparedness of the United States on account of the violation involved. The Secretary of Defense shall notify the Attorney General of his determination, and the Attorney General may bring an action for damages, in any appropriate district court of the United States, to recover such costs against the person that is owned or controlled by the person who committed the violation, and any person who owns and controls the person who committed the violation.

(3) [sic] The total amount awarded in any case . . . shall be determined by the court in light of the facts and circumstances, but shall not exceed the amount of the net loss to the national security of the United States. An action under this subsection shall be commenced not later than 3 years after the violation occurs, or one year after the violation is discovered, whichever is later.

OTCA, *supra* note 16, at § 2444(k), 102 Stat. 1366–69.

²⁴⁰ 133 CONG. REC. S9000–10 (daily ed. June 30, 1987) (statement of Sen. Helms). Sen. Helms, in a written statement, said the following in support of his amendment creating a cause of action for CoCom violations:

My amendment has two purposes. First, it ensures that the American taxpayer does not get stuck with the bill for treachery. Second, it also ensures that, in the future, those who might wish to follow the lead of Kongsberg and Toshiba will be deterred by the certain knowledge that they could be liable for any damage sustained.

Id.

²⁴¹ See, e.g., 133 CONG. REC. S8998–9004 (daily ed. June 30, 1987) (written statement of Sen. Helms); see also *supra* notes 237–39 and accompanying text.

²⁴² There have been no public reports of any reparations by any parties involved in the Toshiba-Kongsberg sales. One news commentator, however, has reported that the Japanese government agreed to contribute to a joint U.S.-Japan anti-submarine research project after secret negotiations with the United States. See Anderson & Van Atta, *Japan's Costly Gesture of Contrition*, Wash. Post, Nov. 25, 1987, at E14, col. 5.

²⁴³ See *supra* note 239 and accompanying text.

²⁴⁴ See 133 CONG. REC. H5035–42 (statement of Rep. Hunter).

²⁴⁵ See *id.*

²⁴⁶ See *supra* note 239 and accompanying text.

ample, MECEAA grants the U.S. Attorney General the authority to sue any company or its subsidiary within the jurisdiction of the United States for certain serious CoCom violations.²⁴⁷

Compensation actions, however, have clear practical limitations. First, few companies have the assets necessary to remedy or even partially contribute to the damage to U.S. national security.²⁴⁸ For example, while Toshiba and Toshiba Corp. have substantial assets, the damage to U.S. national security from the Toshiba-Kongsberg sales far exceeds the companies' ability to pay.²⁴⁹ In the case of Kongsberg, such compensation was impossible since the violating division no longer exists, and the Norwegian government now owns the assets of Kongsberg.²⁵⁰ Second, calculating the damages of an export control breach is difficult and uncertain.²⁵¹ In the case of the Toshiba-Kongsberg sales, for example, the Defense Department has been unable to estimate accurately the costs of responding to the Soviet advance and reestablishing a technological advantage in submarine technology.²⁵² Third, voluntary compensation actions have no precedent in western diplomatic history.²⁵³ It is unknown whether a CoCom nation has ever considered a request for compensation from another for violation of its guidelines.²⁵⁴ Fourth, compulsory compensation actions are limited by the reach of federal court jurisdiction or whatever multilateral agreement allows jurisdiction.²⁵⁵ Foreign companies, for example, could escape U.S. jurisdiction by withdrawing assets from the United States.²⁵⁶ Fifth, compensation actions also encounter the difficulties of other unilateral actions.²⁵⁷ As with import sanctions, compensation actions could prompt diplomatic reactions which would injure current diplomatic ties and weaken the current alliance of CoCom.²⁵⁸

Compensation actions represent a new approach to curbing illegal transfers of foreign-developed critical technology from CoCom countries to the Soviet Union.²⁵⁹ Compensation actions could be either compulsory or voluntary in

²⁴⁷ See *id.*

²⁴⁸ See *infra* notes 249–50 and accompanying text.

²⁴⁹ Cullison, *supra* note 202, at 1, col. 1. Toshiba annual sales are approximately \$700 million; the annual sales of Toshiba Corp. are approximately \$22.6 billion. *Id.*

²⁵⁰ Kongsberg Chronology, *supra* note 2, at 1–3.

²⁵¹ See 1986 DOD Report, *supra* note 28, at 7–12.

²⁵² See *supra* notes 11, 55 and accompanying text.

²⁵³ See Hunt, *supra* note 6, at 1286–87; Note, *supra* note 42, at 108–13, 121–23.

²⁵⁴ See *supra* notes 147–50 and accompanying text.

²⁵⁵ See *supra* note 239 and accompanying text. Under MECEAA, for example, the Attorney General can initiate a legal cause of action only where jurisdiction exists in U.S. District Court. See OTCA, *supra* note 16, at § 2444(k), 102 Stat. 1366–69.

²⁵⁶ See *id.*

²⁵⁷ See Root, *supra* note 43, at 61–63, 72–74.

²⁵⁸ See *id.*

²⁵⁹ See *supra* notes 235–42 and accompanying text.

their structure.²⁶⁰ Compensation actions, however, have clear pragmatic limitations and current proposals have received little serious attention from lawmakers.²⁶¹

C. *Restructuring CoCom in a Treaty*

Congress first suggested restructuring CoCom in a formal treaty in the early 1980s.²⁶² In 1983, a Senate committee reviewing certain amendments to the EAA recommended that the President initiate discussions on raising CoCom to treaty status.²⁶³ In 1984, a House Foreign Relations Committee Report echoed those recommendations.²⁶⁴ Officials in the Reagan administration have also supported the proposal.²⁶⁵ The Reagan administration, however, has never publicly pursued negotiations to upgrade CoCom to treaty status.²⁶⁶

Restructuring CoCom in a treaty could alter enforcement responsibilities in the multilateral export control system.²⁶⁷ Currently, CoCom is a voluntary, non-binding association of independent nations joined only by their common interest in preserving western security interests.²⁶⁸ CoCom has no binding policies concerning enforcement of its export control lists.²⁶⁹ CoCom relies solely on international cooperation to enforce its guidelines.²⁷⁰ A treaty, in contrast, could establish binding rules controlling export transfers from all member nations to various nonmember nations.²⁷¹ Conceivably, transfers between member nations could be decontrolled, and all export controls would be uniform for member nations.²⁷² Additionally, the treaty alliance could work multilaterally to investigate and punish violations of CoCom rules.²⁷³

While having a far-reaching impact on many trade policies, a treaty could significantly improve enforcement of CoCom guidelines.²⁷⁴ Treaty status could provide a structure for various nations to contribute resources to foreign enforcement agencies.²⁷⁵ A treaty could give member nations leverage to enforce

²⁶⁰ See *supra* notes 243–47 and accompanying text.

²⁶¹ See *supra* notes 248–58 and accompanying text.

²⁶² See OTA REPORT, *supra* note 29, at 92–93; EAAA Report, *supra* note 180, at 11.

²⁶³ See EAAA Report, *supra* note 180, at 11, 18; Gonzalez, *supra* note 34, at 472–73.

²⁶⁴ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 27.

²⁶⁵ See OTA REPORT, *supra* note 29, at 92.

²⁶⁶ The EAA mandates that the President negotiate for improved multilateral export controls, but those diplomatic negotiations are not public. 50 U.S.C. app. § 2404(i)(Supp. 1988).

²⁶⁷ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 27.

²⁶⁸ See *supra* notes 147–66 and accompanying text.

²⁶⁹ See *id.*

²⁷⁰ See *id.*

²⁷¹ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 27.

²⁷² See *id.*

²⁷³ See *id.*

²⁷⁴ See *id.*

²⁷⁵ See *id.*

CoCom violations in other nations and could reduce the economic competition between member nations which encourages weak enforcement.²⁷⁶ A treaty could provide for extradition of violators to the nation damaged by the breach of security.²⁷⁷ Enforcement agencies could share information and operate more readily in foreign jurisdictions.²⁷⁸ Penalties for CoCom violations could be uniform throughout the member nations.²⁷⁹ The effectiveness of cross-national enforcement could increase the deterrence of the multilateral export control system.²⁸⁰

Restructuring CoCom in a treaty, however, could disrupt the broad cooperative alliance of the current CoCom structure.²⁸¹ CoCom has remained in place for more than thirty years.²⁸² Its membership has grown from seven to fifteen nations.²⁸³ Although participation is voluntary and non-binding, CoCom has reached agreement on numerous national security export controls and has succeeded in restricting the flow of nuclear, military, and civilian critical technologies to a range of controlled countries, including the Soviet Union.²⁸⁴ The current CoCom structure allows for dissent and disagreement on national security and foreign policy issues while maintaining a cooperative alliance.²⁸⁵ A treaty would alter the informal structure of CoCom and could discourage future international cooperation.²⁸⁶

A treaty would require a definitive negotiated settlement on many issues, and reaching such agreement might be diplomatically difficult.²⁸⁷ The United States has long been at odds with other CoCom nations regarding the scope and content of export control lists.²⁸⁸ Treaty negotiations could reduce the membership of any resulting alliance and consequently reduce the breadth of the multilateral export control system.²⁸⁹ Furthermore, the United States might not be able to reach agreement on an enforcement structure to parallel the export control guidelines.²⁹⁰ Any resulting agreement could be far more difficult to alter and less flexible in responding to future problems in the area of controlling

²⁷⁶ See *id.*

²⁷⁷ See *id.*

²⁷⁸ See *id.*

²⁷⁹ See *id.*

²⁸⁰ See *id.*

²⁸¹ See *Senate Foreign Relations Hearings*, *supra* note 29, at 73; *OTA REPORT*, *supra* note 29, at 92-93.

²⁸² Note, *supra* note 42, at 108-13.

²⁸³ Hunt, *supra* note 6, at 1286.

²⁸⁴ See *Senate Tech Transfer Hearings II*, *supra* note 29, at 234-35; Note, *supra* note 42, at 121-22.

²⁸⁵ See *Senate Tech Transfer Hearings II*, *supra* note 29, at 233-36.

²⁸⁶ See *OTA REPORT*, *supra* note 29, at 93.

²⁸⁷ See *id.*; *Senate Foreign Relations Hearings*, *supra* note 29, at 73.

²⁸⁸ See Root, *supra* note 43, at 61-63, 72-74.

²⁸⁹ See *Senate Foreign Relations Hearings*, *supra* note 29, at 73.

²⁹⁰ See *id.*

critical technology transfers.²⁹¹ Even initiating discussions on upgrading CoCom would indicate dissatisfaction with the current CoCom structure and, if unsuccessful, could threaten the strength of the remaining CoCom alliance.²⁹²

Restructuring CoCom in a treaty could establish a binding, uniform system to enforce CoCom rules.²⁹³ A treaty, however, would involve a substantial diplomatic effort.²⁹⁴ Additionally, the outcome of treaty negotiations could reduce membership in CoCom and could risk weakening the current alliance on export controls.²⁹⁵

D. *Reforming Enforcement Within the Current CoCom Structure*

Improving enforcement in CoCom has been an ongoing statutory obligation under the EAA for the Reagan and previous administrations.²⁹⁶ In the early 1980s, officials in the Reagan administration called for increased funding and administrative resources for CoCom operations, in part, to upgrade CoCom's enforcement capabilities.²⁹⁷ House and Senate committees reviewing the EAA adopted similar recommendations in 1984.²⁹⁸ In 1987, following reports of the Toshiba-Kongsberg sales, the Reagan administration initiated new diplomatic negotiations to improve enforcement within CoCom.²⁹⁹ The various proposals, which are not public, remain ongoing diplomatic objectives for the United States in CoCom discussions.³⁰⁰

Proposals to improve enforcement within CoCom represent an effort to work within the established CoCom structure.³⁰¹ Through diplomatic discussions, the United States can achieve various informal agreements on enforcement and

²⁹¹ See *id.*

²⁹² See *id.*

²⁹³ See *supra* notes 267–80 and accompanying text.

²⁹⁴ See *supra* notes 281–86 and accompanying text.

²⁹⁵ See *supra* notes 287–92 and accompanying text.

²⁹⁶ See 50 U.S.C. app. § 2404(i) (Supp. 1988). The President is directed under the EAA to negotiate for improved enforcement within CoCom. *Id.* Under amendments to the EAA in MECEAA, the President must pursue, among other things, agreements for uniform civil and criminal penalties for export control violations in all CoCom nations, agreements for harmonization of licensing documentation in all CoCom nations, and agreements to coordinate the enforcement agencies of each CoCom nation. See OTCA, *supra* note 16, at § 2446, 102 Stat. 369.

²⁹⁷ See *Senate Tech Transfer Hearings II*, *supra* note 29, at 283–85 (statement of Undersec. of Defense Perle).

²⁹⁸ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 28; Gonzalez, *supra* note 34, at 472–74.

²⁹⁹ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 3–4; Lachia & Mossberg, *supra* note 17, at 16, col. 1.

³⁰⁰ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 3–5; *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 247–49 (statement of Asst. Sec. of Commerce Dr. Freedenberg); Lachia & Browning, *West Tightens Technology Export Rules*, Wall St. J., Jan. 28, 1988, at 16, col. 2.

³⁰¹ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 13–14; *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 247–49 (statement of Asst. Sec. of Commerce Dr. Freedenberg); Perle, *supra* note 32, at 31.

procedures in CoCom.³⁰² The United States can also address specific incidents of illegal transfers of foreign-developed critical high technology in CoCom meetings.³⁰³ Specific U.S. proposals have focused on two tasks: increasing CoCom administrative capabilities and improving the enforcement systems of each member nation.³⁰⁴

1. Increasing CoCom Staff and Budget

Increasing CoCom staff and budget could expand the administrative capabilities of the organization and enhance cooperation between the member nations in the area of enforcement.³⁰⁵ Adding military and legal advisors to the CoCom staff could give all member nations access to specialists in export control.³⁰⁶ A computerized information center for export control records and data could open CoCom information to international investigations originating in any member nation.³⁰⁷ These changes could also enhance the general efficiency of CoCom's operations.³⁰⁸

These administrative proposals, however, could alter the basic diplomatic nature of CoCom.³⁰⁹ At this time, CoCom works to foster voluntary, non-binding discussions between its member nations.³¹⁰ CoCom has shown it works most effectively when it remains a small, discrete diplomatic operation.³¹¹ Increasing the administrative capacities of CoCom could create a more restrictive environment for diplomatic discussions.³¹²

2. Improving Member Nation Enforcement Systems

Reforming the enforcement structures of CoCom member nations could contribute significantly to reducing CoCom violations in foreign countries.³¹³ Standardizing and toughening the criminal penalties for CoCom violations could create a standard level of deterrence in all CoCom nations.³¹⁴ Increasing

³⁰² See *Toshiba-Kongsberg Hearings I*, at 13-14.

³⁰³ See *id.* at 1-15.

³⁰⁴ See *EAAA Report*, *supra* note 180, at 11; *HOUSE TECH TRANSFER REPORT*, *supra* note 29, at 28; *Perle*, *supra* note 32, at 31-33.

³⁰⁵ See *Perle*, *supra* note 32, at 33; *HOUSE TECH TRANSFER REPORT*, *supra* note 29, at 28.

³⁰⁶ See *id.*

³⁰⁷ See *id.*

³⁰⁸ See *Cullison, Japanese Automate Export Screening*, *J. Com.*, Aug. 31, 1987, at 1A, col. 2; *Perle*, *supra* note 32, at 33.

³⁰⁹ See *Senate Tech Transfer Hearings II*, *supra* note 29, at 6-8, 237.

³¹⁰ See *id.*

³¹¹ See *OTA REPORT*, *supra* note 29, at 93.

³¹² See *Senate Tech Transfer Hearings II*, *supra* note 29, at 6-8, 237.

³¹³ See *Perle*, *supra* note 32, at 31.

³¹⁴ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 12-13, 14-15 (statements of Drs. Bryen and Freedenberg); *Come On, CoCom*, *THE ECONOMIST*, July 11, 1987, at 18, col. 1 (editorial).

staff and budgets for enforcement agencies among member nations could curb illegal transfers as well as add to deterrence.³¹⁵ Voluntarily sharing information on enforcement techniques and data could also improve the quality of enforcement in each member nation.³¹⁶ Finally, creating some standing structure for cooperative, cross-national investigations could enhance enforcement procedures.³¹⁷

Such diplomatic proposals may not, however, satisfy the strong interests of the United States in curbing illegal transfers of foreign-developed critical technology to the Soviet Union.³¹⁸ Diplomatic procedures involve negotiations, and the Reagan administration and members of Congress have both been frustrated by the slow pace and diluted results of CoCom diplomacy in the 1980s.³¹⁹ Moreover, U.S. national security interests have not always been recognized by other CoCom member nations.³²⁰

Proposals to improve enforcement in CoCom represent diplomatic efforts at specific improvements to strengthen the current enforcement structure.³²¹ Such proposals do not recommend any fundamental changes in CoCom, but would require international cooperation to be successful.³²²

V. RECOMMENDATIONS FOR CURBING ILLEGAL TRANSFERS OF FOREIGN-DEVELOPED CRITICAL TECHNOLOGY FROM COCOM NATIONS TO THE SOVIET UNION

The various proposals for curbing illegal transfers of foreign-developed critical high technology all focus on improving enforcement in the multilateral export control system.³²³ The proposals, however, differ substantially in their legal and diplomatic methods for improving such enforcement. Import sanctions or compensation actions, for example, are potent unilateral actions taken by the United States employing domestic law.³²⁴ Restructuring CoCom in a treaty or working within the current CoCom regime, in contrast, are more modest multilateral actions focusing on diplomatic policy.³²⁵ In evaluating these

³¹⁵ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 14–15.

³¹⁶ See *id.* at 15.

³¹⁷ See *id.*

³¹⁸ See *id.* at 24–25 (statement of Sen. Garn).

³¹⁹ See *id.* at 26; GAO REPORT, *supra* note 29, at 5–6; 133 CONG. REC. S8998–99 (daily ed. June 30, 1987) (statement of Sen. Garn).

³²⁰ See Note, *supra* note 42, at 125–27; OTA REPORT, *supra* note 29, at 93.

³²¹ See *supra* notes 305–17 and accompanying text.

³²² See *supra* notes 301–04 and accompanying text.

³²³ See *supra* notes 170–322 and accompanying text.

³²⁴ See *supra* notes 179–261 and accompanying text.

³²⁵ See *supra* notes 262–322 and accompanying text.

contrasting actions, this Comment offers three recommendations for curbing illegal transfers of foreign-developed critical high technology from CoCom nations to the Soviet Union.³²⁶

A. *Develop Detailed Public Information*

Despite recent discussions of the Toshiba-Kongsberg sales, there remains a lack of specific information regarding the quality, quantity, and source of illegal transfers of foreign-developed critical technology flowing to the Soviet Union.³²⁷ The current declassified information available on the problem primarily consists of two CIA reports and a series of annual reports from the Defense Department.³²⁸ All of these sources were prepared primarily for the purpose of identifying the loss of U.S.-developed technology and do not provide valuable distinctions on the origin of technology flowing to the Soviet Union.³²⁹ The various reports detail the pattern of illegal sales originating from the United States and offer broad estimates on the quantity of illegal transfers.³³⁰ These reports, however, do little to identify the flow of foreign-developed technology from CoCom nations to the Soviet Union.³³¹ Given the potential damage to national security revealed by the Toshiba-Kongsberg sales, the U.S. intelligence, defense, and trade information services should focus attention on discerning what foreign-developed critical technologies are flowing to the Soviets and by what routes. While studies of illegal activities are difficult and information on the problem may be classified, more public information identifying the specific nature of the problem is necessary to evaluate the effectiveness of the current CoCom enforcement system and appropriate improvements.³³² Moreover, additional information on illegal transfers of foreign-developed technology would be a potent tool for diplomatic negotiation within the current CoCom structure.

³²⁶ See *infra* notes 327–49 and accompanying text.

³²⁷ See Murphy & Downey, *supra* note 34, at 807–08.

³²⁸ See SOVIET ACQUISITION, *supra* note 29; SOVIET ACQUISITION: AN UPDATE, *supra* note 29. See, e.g., 1986 DOD Report, *supra* note 28.

³²⁹ See, e.g., 1986 DOD Report, *supra* note 28, at 7–11. Similarly, recent amendments to the EAA have failed to direct attention to the study of foreign-developed technology flowing to the Soviet Union. OTCA, *supra* note 16, at § 2433, 102 Stat. 1363. The OTCA provided for a study by the National Academy of Sciences on the effectiveness of the U.S. export control system. *Id.* Instead of focusing solely on the domestic system, the United States should examine the multilateral export system and should specifically study the problem of illegal transfers of foreign-developed technology to the Soviet Union.

³³⁰ See SOVIET ACQUISITION: AN UPDATE, *supra* note 29, at 24–28; 1986 DOD Report, *supra* note 28, at 7–11.

³³¹ See, e.g., SOVIET ACQUISITION, *supra* note 29, at 19–20.

³³² See Murphy & Downey, *supra* note 34, at 807.

B. *Avoid Unilateral Action; Work Within CoCom*

Unilateral actions, in this case import sanctions or compensation actions, risk weakening the multilateral cooperation needed to curb illegal transfers of foreign-developed critical technology to the Soviet Union.³³³ The United States relies on multilateral cooperation to maintain current international export controls outside the United States.³³⁴ Unilateral actions, even if limited in scope, would appear to allied nations as coercive diplomacy and as extraterritorial intrusions.³³⁵ Further, unilateral actions such as import sanctions or compensation actions would seriously inhibit reporting of violations within CoCom.³³⁶

The United States has lost the diplomatic prominence to achieve success within the western alliance by unilateral action.³³⁷ The United States is not the only producer of high technology goods with potential military applications in the West.³³⁸ Recognizing the potential sources of critical technology in Japan and Western Europe, the United States should work cooperatively with its allies, at minimum, to maintain its current international regime of export controls.

The United States should focus its efforts on a diplomatic campaign within CoCom to improve the international enforcement of export controls. CoCom, despite its weaknesses, provides an existing vehicle for strengthening enforcement of multilateral export controls.³³⁹ CoCom has unified the western alliance for nearly forty years in restricting the flow of critical technology to the Soviet Union and its strategic allies.³⁴⁰ CoCom's current structure, with its non-binding, non-treaty status, encourages diplomatic exchange on specific, focused issues in export control.³⁴¹ CoCom has a broad base of membership and can continue to attract more nations with mutual national security interests.³⁴² Furthermore, CoCom nations have shown a willingness to respond voluntarily to U.S. initia-

³³³ See Perle, *supra* note 32, at 32-33; Root, *supra* note 43, at 74. A former negotiator to CoCom stated the essence of U.S. reliance on multilateral cooperation:

Multilateral cooperation has become essential to effective security controls. The United States is no longer a unique supplier of most high technology and, even when it is, the allies can frustrate extraterritorial controls on re-exports of U.S.-origin items, exports of foreign-made products using American technology, and exports of foreign-made items by overseas subsidiaries of U.S. corporations. The debate then must center on whether this cooperation is best furthered by give-and-take style of negotiation that will sometimes require compromise or by relentless U.S. pressure to persuade the other CoCom countries that U.S. judgments are superior to theirs.

Root, *supra* note 43, at 74.

³³⁴ See *supra* notes 28-46 and accompanying text.

³³⁵ See *supra* notes 222-26, 257-58 and accompanying text.

³³⁶ See Wehr, *supra* note 15, at 673.

³³⁷ See OTA REPORT, *supra* note 29, at 93.

³³⁸ See TECH TRANSFER DIALOG, *supra* note 29, at 6; Carrington, *supra* note 37, at 6.

³³⁹ See *supra* notes 151-58, 282-85 and accompanying text.

³⁴⁰ See *supra* notes 284-85 and accompanying text.

³⁴¹ See *id.*

³⁴² See *supra* note 156 and accompanying text.

tives on export controls.³⁴³ The United States, however, should not rest contented with the current status of CoCom enforcement procedures.

C. *Propose Guidelines for Enforcement in CoCom*

The United States should work in CoCom to develop new guidelines concerning enforcement of export controls. CoCom has historically devoted its efforts to developing extensive lists of goods and technologies which should be restricted.³⁴⁴ CoCom has not, however, expended comparable energy to the development of enforcement policies regarding its voluminous export control guidelines. The United States should initiate the discussion of enforcement policies within CoCom to match its existing export control guidelines.³⁴⁵

The United States should propose uniform guidelines regarding enforcement duties for each CoCom nation. Specifically, the United States should propose minimum criminal and civil penalties, as well as standard statutes of limitations, for violation of CoCom guidelines in each member nation.³⁴⁶ The United States should also propose minimum standards for review of export applications by enforcement agencies in each CoCom nation.³⁴⁷ Further, the United States should recommend that CoCom establish a standing committee, or even an independently staffed agency, responsible for coordination of enforcement activities throughout all CoCom nations.³⁴⁸ The United States should introduce

³⁴³ See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 3–9.

³⁴⁴ See *supra* notes 159–66 and accompanying text.

³⁴⁵ According to news reports, the United States has begun to discuss some recommendations for enforcement within CoCom. See Lachia & Browning, *supra* note 300, at 16, col. 2. At a high level CoCom meeting in January of 1988, the United States proposed certain improvements in the enforcement structure of CoCom. *Id.* Since the proposals are not public, however, the extent and specifics of the proposals remain unclear. *Id.*

³⁴⁶ Following the investigations of Toshiba-Kongsberg sales, the effort to prosecute those involved was seriously limited by the statutes of limitations in Japan and Norway. See *Toshiba-Kongsberg Hearings I*, *supra* note 3, at 4; Norway Report, *supra* note 2, at 17. To correct this problem, the statutes should be lengthened and structured differently. The statutes of limitation should only be tolled upon discovery of the CoCom violation. Also, given the difficulty of cross-national investigations, the limitations period should be at least three years.

The United States should also encourage the use of broader national security laws for the prosecution of CoCom violations. For example, the French government used anti-espionage laws in 1984 to charge certain individuals allegedly involved in the illegal sale of milling machines to the Soviet Union. See Browning, *supra* note 15, at 22, col. 4. While such prosecutions under anti-espionage laws may appear harsh, such actions could be appropriate for large-scale violations where statutes of limitations or weak penalties don't allow for substantial redress.

³⁴⁷ Currently, CoCom nations commit varying resources to the review of export control applications. See Perle, *supra* note 91, at 20, col. 2; *Toshiba-Kongsberg Hearings II*, *supra* note 3, at 184–90. The United States should propose that each CoCom member nation employ a certain number of export control agents in proportion to the volume of trade it conducts. For example, each CoCom member nation should have “x” export control agents for every \$100 million in trade applications. Experts in the area of trade enforcement should propose a minimum number for “x.”

³⁴⁸ See HOUSE TECH TRANSFER REPORT, *supra* note 29, at 27.

these proposals in conjunction with recently disclosed and any new information on the problem of foreign-developed critical technology flowing to the Soviet Union.

This diplomatic campaign should be initiated for the purpose of beginning a long-range, ongoing dialogue on enforcement issues which would become part of CoCom's regular activities. The United States should not pursue these enforcement guidelines with the goal of achieving immediate accession to its requests by CoCom nations.³⁴⁹ Rather, the United States should try to establish an on-going discussion of enforcement procedures in CoCom similar to the weekly discussion of restricted export items. By integrating enforcement issues into the regular meeting process, CoCom would, over time, develop comprehensive, detailed guidelines on enforcement similar to current restrictions on export items.

VI. CONCLUSION

Illegal transfers of critical high technology represent a serious threat to U.S. national security interests.³⁵⁰ The United States depends on technological developments to generate a qualitative advantage over the Soviet Union in military hardware and weaponry. The United States uses this technology gap to counter the Soviet Union's quantitative advantages in the same areas. In response, the Soviet Union maintains a well-organized program for acquisition of western technology which has achieved breakthrough advances for the Soviet Union's military systems. Consequently, restricting the flow of illegal transfers of critical high technology to the Soviet Union has become essential for maintaining the balance of U.S.-Soviet military forces.

Illegal transfers of foreign-developed critical high technology present a similar threat to U.S. national security. Foreign nations develop sophisticated high technologies on par with the United States. The United States relies on international cooperation to restrict the flow of these foreign-developed critical technologies to the Soviet Union. Recent investigations into the Toshiba-Kongsberg sales have exposed the weakness of the current multilateral export control system in restricting the flow of foreign-developed technologies to the Soviet Union.

³⁴⁹ See *Senate Foreign Relations Hearings*, *supra* note 29, at 68-74.

³⁵⁰ In 1984, Undersecretary of Defense Perle stated the general challenge for the United States and its allies in controlling high technology developments. He wrote:

As we move further into the age of thinking computers, lasers and particle beams, it should be obvious to everyone that mastery of these technologies, and others still undreamed of, is vital to our national security and to our future as a free nation. The United States remains the preeminent innovator of high technology for defense and civilian purposes, but unless we are able to prevent the Soviet Union from rapidly duplicating our latest achievements, there is precious little advantage in being better and being first.

Perle, *supra* note 32, at 33.

Proposals to curb this problem offer a variety of actions designed to improve enforcement in the current multilateral export control system. The actions include imposing import sanctions against foreign companies which violate CoCom guidelines and damage U.S. national security, initiating compensation actions against foreign companies which violate CoCom guidelines, restructuring CoCom into a treaty with binding enforcement procedures, and reforming the enforcement procedures and agencies within the current CoCom structure. The proposals represent both unilateral actions in U.S. export control laws and multilateral actions in the CoCom export control system.

In light of the problem, the United States should not rest contented with the current multilateral export control system. First, the United States should develop more detailed public information regarding the problem of foreign-developed technology flowing to the Soviet Union. Second, the United States should avoid any unilateral actions regarding the problem and, instead, work within the current CoCom multilateral export control system to reform enforcement systems in the member nations. Third, the United States should initiate a diplomatic campaign to establish new enforcement guidelines within CoCom. The United States should pursue these actions to curb the illegal transfers of foreign-developed critical high technology from CoCom nations to the Soviet Union.

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